DIGITAL DIVIDI DON TAPSCOTT ON WIRING

(IDG)

BORDER WAR ON TECH VISAS

25 000 MORE FOREIGN IT PROS ARE WANTED



MAKE-OR-BREAK TIME FOR WEB COMMERCE VENDORS

THE CYBERPOOR 109 ANNUALLY, BUT NOT BY EVERYONE 92 **FOLLOWING PAGE 40**

The Newswookly for information Technology Leaders News updates, features, forums: www.computerworld.com March 9, 1998 - Vol. 32 - No. 10 - 138 pages - \$3/Copy

Politicos wrangle over Internet taxes

PARTIAL BAN COULD DERAIL MORATORIUM BILL

Machin and Patrick Thibodean

DON'T BET ON that Internet tar

moratorium just vet Despite backing from the Clinton administration for a bill to freeze all new Internet taxes a chief sponsor of the measure

last week said the moratorium idea might be dropped entirely. In its place, permanent bans on taxes on Internet access, bit rates and bandwidth rates.

amone other things. Regardless, most observers believe that Web commerce will

be subject to some form of taxation down the road. "The important thing to keep in mind is that there is no special preference for the Internet

SMALL FISH Online sales vs. catalog and retail

Online sales, 1997 \$28 Catalog sales, 1997 \$78.68

Retail sales, 1997

Owner, Willia, Collections Po in this legislation," said U.S.

Rep. Christopher Cox. R-Calif. "There is little or no change in the laws for the sales tax." The House is expected to vote on the measure by the end of

\$2.51

the month; Senate action is still pending. As many as two House Pulitices, sixon lé

OTHER TOP STORIES ITITRUST AGONIES ABOUND

BJFT2 84990 MOR-RT-SORTMR-MO

\$48186UZ2984P88658 NUB 98 881 6357 UMI PO BOX 984

ONN ARROR HT 4RIAG-8984

Complex R/3 drives users to data marts

By Crair Stedman

SAP AG'S R/3 is proving unable to handle some users' data anal-YEST PROSERVE

Church & Dwight Co., Iansnon-Ortho fee and S.R. Barret Tool Co. each initially planned

to let its end users create reports and analyze data right mode SAP's popular applications. But all three quickly decided

that wouldn't work because R/5's development language is so hard to work with and its built-in reporting tools are too complex and don't provide enough functionality When we first got SAP, the

business community thought at would be the complete answer for everything. But they're starting to realize it's not as wonder ful as they thought it would be (for reporting)," said Rick Som-R/3, page 106

Global IT jobs: **Fainthearted** need not apply

By Julia King

FOR CARL RICKTUS design ing a worldwide technology in frastructure isn't just a pob. It's more like an Indiana Jones As the global chief of infor-

mation technology at Standard Chartered Bank's treasury open ations, the 41-year-old English man has faced down tribal scavengers in Zimbabwe and software pirates in Hong Kong When in Karachi, Pakistan, he works out of an office build whose doors are riddled with old bullet holes.

Global IT, page 105



Supply Chair BREAKDOWN

Despite many warnings, year 2000 compliance among suppliers is off to a dreadful start

The way things are going, your retail shelves will be bare and your assembly line will be missing some key parts come January 2000. Experts say many suppliers are clueless about fixing their systems for the millennium and are headed for failure.

Senior editor Kathleen Melymuka examines the ripple effects throughout the supply chain in three key industries. Managing, page 76. And in the latest installment of the Year 2000 Chronicles, we check in with six companies that are starting to address the supplier problem. Page 28

The spammer next door, Lots of bulk E-mailers

are just plain folks ng to quick-ste

FRONT

At your service

of the sal

s. CA went after

cause it needed a

Big software companies must

tions is running dry he logic is in the num les that 37% of IT funds go e. The year 2000 and IT skills get into services . IBM's service business was u

tors are imp

That's why users s es to captive integrators. If choice is important to you, a about whether the integrator you choose might som

HE FIFTH WAYE



Closer to the flames

► Justice Department considers broadening Microsoft antitrust suit

By Carol Slove

AS MICHOSOFT CORD, CEO, BOIL Gates locked horns last week with U.S. senators, the Department of Justice was pondering its next stew whether to broad en the antitrust case against the Redmond, Wash,, company

A broader antitrust case could attack Microsoft on several fronts, from the bundling of various technologies to predatory pricing and other exclusion-

If the Justice Department does file a broader sun, legal experts said it makes sense to file st before Microsoft's planned second-quarter release of Windows q8, which would undoubtedly be part of the case. The patential for such protracted litigation was bad news to information technology pro-

festionals enterviewed last week. "If the Windows oS rollout is delayed, waiting for some legal ruling as to whether the browsthat will impact the perception of Microsoft being a leader," sand Harold Bennett, a technology specialist at The Dow Chemical Co. in Midland, Mich.

PUBLIC WILL PAY Larry Stouder, director of tech-

encal development at Continental Grain Co. in New York, ex pressed concern about the cost of a lengthy legal battle - in tax dollars and possible higher prices for Microsoft products Who gets penalized? Ulnmately. I don't think it's going to be Microsoft. I think it's go

ing to be the technology-using public." Stouder said. But Microsoft is well aware that the Justice Department's antitrust chief, lorl Klein, faces an uphill battle in any broad

*Klein has said both publicly and privately that he's willing to take some litigation risk in or der to advance (antitruet) doctrine," said Joe Suns, a Wash ington antitrust afterney who worked for the Justice Department from 1970 to 1978. "He won't bring the case if it's a sure-bang loser. On the other hand, if it's only 50-50 or 40

60, he might take that risk. The Justice Department's on going investigation has been no secret, although antitrust en forcers refuse to discuss possihie consequences on the record

with reporters. Currently, the federal agency is pursuing a more narrow case that alleges that Microsoft violated a 1005 consent decree by forcing PC makers to license its Internet Explorer browser with the Windows 95 operating system.

If the Justice Department does file a broader suit, the possible outcomes include another consent decree - which could lay out more specific ground rules for how Microsoft can do business - a court order for bidding any bundling of products, and financial penalties. A

*Sometimes I wish the gov ernment would stay out of prople's business. But then I also realize there are times when something like this might be needed to preserve the compets tive environment " said David Leong. Internet technologies systems integrator at Sandia National Laboratories in Albu-

querque, N.M. Under intense questioning by several senators at last week's hearing on Capitol Hill, Gates admitted that Internet content providers are limited in the way they can promote competitors' breakup of the company into products on certain pages



secc practices at last week's Sen

separate businesses is considlinked directly to Microsoft's ered the least likely scenario. rate. The company also restricts Mike Culp, a senior vice president of network planning at a mayor East Coast financial motitution, doesn't see any value in the government's wide-ranging pursuit of Microsoft. "All those great legal minds

and other companies make

their businesses better, not

bring them into the principal's

office and turn one guy over

their knee." Culp said

certain partners' "platinum" providers from paying for inclusion in Netscape Communications Corp.'s channel guide for an unspecified period should be helping Microsoft

Microsoft claims it is just coincidence, but shortly before the hearing, the company revised its business agreements with about 40 Internet service providers to let them promote Internet products from other companies such as Netscape. D



Microsoft moves to derail Sun's cross-platform Java

By Sharon Gauden

HOPING TO REEP corporati developers faithful only to Windown, Microsoft Corp. will wage a frontal attack on Java this week with a new version of its most popular tool for develop-

ing in the Sun Microsystems. Inc. Java language. Industry observers

Microsoft is trying to derail Java's cross-platform momenturn, which threatens Windows by enabling developers to write software for other operating

At Internet World in Los Angeles, Microsoft will unveil a beta version of Visual I++ 6.o. That new version would effectively kill the cross-platform capabilities of Java because it adds Windows-specific code that ties applications written with it to the Microsoft platform. Ver room & o mill add Windows Foundation Classes that were designed to directly tie in to proprietary Windows functions

and services "I don't think the idea here is to inflict a new language on developers. That would be awful," said David Sarna, chairman oi ObjectSoft Corp. in Hackensack, N.J. Sarna has been unofficially briefed on the new version of

the tool, which is expected this JavaSoft the Java-focused arm of Microsoft mal Sun Microsos tems, Inc., is calling the move

an outright attack that could end up in court "If what they're saying is they're going to take pieces of the Java technology, subset it and call it something else, that goes against the bornse," said George Paolins director of one

porate marketing at JavaSoft *Everything they have done in the past is to try to undermine the Java technology, and [those efforts were at least under the guise of making it crossplatform. Developers clearly recognize that cross-platform ap-

plications are where it's at," Paolini said Sun has a lawsuit pending against Microsoft for breach of contract over its allegedly non compliant version of Java in the Internet Explorer 4.0 brows er. Microsoft has countermed for breach of contract, saying

Sun did not deliver promised technology .Users said they are worried about the direction in which Macrosoft is trying to steer Java. "Microsoft is loading the gun with this one. They're going to shoot themselves," said Brian administration at Econometrics. Inc., a database marketing firm in Chicago, "Cross-platform is the whole reason law is nowlar. That's the whole point.

McGuire, who has been de veloping with Java since the first Java Development Kit was in beta, said be won't use Visual I++ now. "My interests are to develop for any platform," he explained. The notion that I can write something once and know it's compatible anywhere.

Tim Everhart, a senior vice president at NationsBank Corp. in Charlotte, N.C. said he too is concerned about losing plat form independence. "I think Microsoft would want to become part of a standardized lava offering," he added, O

Senior writer April Jacobs con tributed to this story.



PalmPilot memory boosted

Palm III features better communications between devices

IBM notebook on diet

· Vendor ups ThinkPad memory, not its weight By Kim Girard

USERS WANT a lighter notebook. but that doesn't mean they want a dinky hard drive To address that paradox, IBM last week said it has developed

a 6.4G-byte, slim-line hard disk drive for its ThinkPad note books. It also is expected to be used in future models of Dell Computer Corp.'s Inspiron and Latitude portable line ThinkPads equipped with the

drive are due in the second

'The drive gives [users] more capacity at a lower weight. And performance on that drive is good, given the size," said Rob Enderle, an analyst at Giga Information Group in Cambridge, Mass. "It's a lot quicker, and its

canacity exceeds anything in its

paper. [7]

Enderle said the hard drive can be used in a minimatebook such as Mitsubishi Electronics America, Inc.'s Pedion or Amery models, to make a decent desktop PC substitute

The drive was designed to fit in ultrathin a s-in, notebooks such as those in the ThinkPad 660 series, and can hold two to there times as much informa tion as today's average notebook

day The drive, called the Travestar 6GT, can store more than a billion bits per square inch. I is about the size of a deck of playing cards and can hold the ecurvalent of a million typed, double-spaced sheets of

can soon upgrade to a new model with more memory and the ability to zap an address or telephone number to a Palm Pilot-toting pal with just a wave and a button click PalmPilot maker 3Com Corp.

By Kim Ginard

in Santa Clara, Calif., last week cut the prices of its current PalmPilot line by up to 20% to make way for the new device, called the Palm III. The adannounced this week

The price of the PalmPilot Personal dropped from \$247 to \$200, and the cost of the Palm-Pilot Professional model dipped from \$160 to \$100 The advanced Palm III will

cost \$100 and will ship next month, company officials said. "It's a great product," said Tim Warner a nurse who used the Palm Dilot Professional to track patient names and medical information for two years However, Warner, who open

ares a World Wide Web site do. voted to PalmPilot applications said some fellow users are con cerned that the new infrared

POWER USERS of the PalmPilot nort doesn't communicate with desktop PCs, but only with other PalmPilots The infrared data communi cations port allows users to

share information simply by pointing the devices at each oth er, highlighting a phone num ber or other data and pushing a PALM III FEATURES

Cost: \$399

ble: April

Joe Martella, vice president of desktop engineering at a New York-based bank, said the Palm III looks sleeker but sen't much different from the PalmPalot Professional models the bank's employees already use

THE COMPETITION Martella said he also is keep a close eve on competing Win dows CE devices, which are due within the next several months, and walting for Version s.o of

the Windows CE operating systern, which promises additional The Palm III still lacks a color screen, said Phillip Redman, an analyst at The Yanker Group in Boston. But he noted that 5Com is providing backward compatibility with exist-

ing PalmPilots, 2M bytes of RAM and the option to upgrade existing machines with an infrared port Later this year, sources said. sCom will unwil a PalmPilot

with the built in capability of getting wireless packets of data. such as stock quotes, from a satellite network D

In this issue

NEWS

- Corest copies Compaq and CA, trying to
- lets drops travel time and costs using lets/feeting to share documents, video. HERSTURY
- se need to matu

 - arget that real power ngress, not from og set taxes pose a threat to yours, so get busy. Call Congress,

TECHNICAL SECTIONS

SPORATE STRATEGIES

- soffice omerge as key element in Ining talented staff in a tight market.
- epital sleekes at its cost structure technology as a main weapon. THE INTERNET

THE ENTEMPRISE METWORK

sers hill the road in an

- - nt SmartSuite, adds speech to 1-2-1. SERVERS & PC.

- - REVIEW CENTER orch engines rev up a site, but th one should you nich?
- more seem ord, but it turns out
- ing in more fo
- fee seer for Baan pros, but the fe can be hectic.

Extranet service helps users tailor info access

· VPN-based package creates online community By Rob Wallace Brokerage partners could get

PMI's Jim Fey says

Concentric service

is a "great way to

leunch a new prod

uct or services to

CONCENTRIC NETWORKS Corp. this week will approunce what analysts are calling the first extranet service, which will let users tailor infor-

mation access and services packages to different customer groups. The service. called CustomLink

VPN, is a sales and marketing tool that creates an online Thus as the first

that enables companies to stratify their customers and provide them different capabilities at different costs," said Bar-

bara Ells, an analyst at Zona Research. Inc. in Redwood City Calif. *Concentric is addressing what has been a sore spot for the services industry."

"They developed this service for one financial services firm and realized the

large market opportunity for it, so they productized the service and are now

offering it to all comers." - Rarbara Filk. **Jona Research**

The extranet service, based on virtual private network (VPN) technology, was designed to be a low-cost alternative to di rect mail, relemarketing and call centers manned by customer service aprets.

*Companies can use the Concentric service to provide the red-carpet treatment to their biggest revenue-producing clients," while lesser clients could get more limited service.

For example, a financial sersices firm could steelily the CustomLink VPN in the follow-



electronic mail, the ability to

and local dial-up access to 10 Web account customers

could be limited to five Web sites CustomLink VPN is an attrac

true alternative to hiring staff and investing in 800number services and equipment to launch a home

grown program, said Jim Fey, director of strategic technologies at PMI Mortgage, Inc., a Concentric customer based in San Francisco "It's a great way to launch a new product or services to the masses," he said. "Especially if you don't have the time or the talent to do things yourself."

Users also can save by using CustomLink VPN in place of toll-free phone numbers and call-center agents because most information can be accessed online. Consumers without online access still will have to call an 800 number and talk to a customer service agent.

Concentric estimates that 800-number service costs \$5 to \$6 per hour, plus \$12 per call processed by an agent. By comparison, CustomLink VPN's top dial in option costs \$1.50 to \$2.55 per hour and doesn't require agents. That's a savings of 49% to 70%, not including the cost of agent time

"You get the benefit of cost savings from a VPN service and a robust way to better connect with your customers " said Maralyn Rosenblatt, vice president of client services at Countrywide Home Loans in Simi Valley. Calif. "I'd consider using fitl to build an extranet linking us to our lenders and brokers. The savings are definitely compelling, but I'd first want to find

out what security features the service does or doesn't have "D



IS YOUR BACKUP TOUGH ENOUGH FOR THE JOB? Is your critical data guarded by a puny backup solution that doesn't scale up? Backup

Express™, new from Syncsort, is fast and powerful, designed specifically for today's distributed networks, where the data grows every day. Backup Express™ backs up and restores gigabytes of data fast-whether on UNIX, NetWare, or Windows NT. If you want a backup strong enough to keep your network data secure and bring it back fast, call us.

Need to send secure documents via the Internet? See UPS

Service offers stronger online protections with \$100,000 insurance coverage LLP, uses the NetDox costem on

encryption and digital certifi-

By Barb Cole-Gomolski

MOST COMPANIES USE INTE net messaging to send business documents, but few trust at to carry highly confidential infermation. United Parcel Service of America, Inc. last week announced a news service that could change that

The Atlanta-based delivery gunt has launched UPS Document Exchange (www.exchange. agricom), a service designed to offer secure electronic delivery of documents over the Internet

The service is much stronger than what is available today through most electronic mail

UPS also will offer document tracking, which users can't do now and up to \$100,000 of insurance against business loss es that result from any service failure

FAST AND CHEAD The idea is to help companies

boost the security of their E-mail networks by ensuring that documents are opened only by intended recipients. And although the price of sending a document

UPS officials said electronic document delivery could account for 30% of its business by 2000.

with the service isn't finalized, it is expected to be significantly less expensive than sending an overnight letter, which costs

about \$10 "We can encrypt our E-mail today," said Harry Tom, a mes raging manager at American International Group, Inc., an insurance company in New York that uses Microsoft Corp's Exchange

But problems arise if senders and recipients don't use the same encryption software, and there is no way to guarantee that an E-mail message will be opened only by an intended recipient, he said

Most analysts arread that UPS won't be alone in this mar-

ket for long Ken Slade, a senior partner at

Oracle is promising Boston law firm Hale and Dorr

cates to provide secure trans which the UPS service is based. mission, delivery confirmation He said his life is no longer tracking and insurance. Both ruled by the 7:30 p.m. deadline the sender and receives areal to drop off packages for over special client software a public night delivery. "I can send a docand private-key pair and digital ument at any time, and it eets certificates there before the next morning.

MEXCLUSIVE UPS's plan is to offer two The second service was devellevels of package service that oped by Tumblewood Software will go live in the second quarter

Corp. in Redwood City. Calif. and is dubbed On Line Courses. The first level, called UPS On It also offers password protec-Line Dossier and developed in tion, encryption, tracking and partnership with NetDex Inc in receipts, but it is available to Deerfield. III., uses two layers of anybody with an E-mail address and an Internet connection.

count for no% of its business by 2000, and analysts agreed that st should have appeal for a widbreadth of companies Still, the success of the sensor isn't guaranteed. In the late 1980s. Federal Express Corp. in

paery officials said

nent is encounted at se processing cents **UPS** client soft where the in of the sender is checked

USING UPS' ONLINE OOSSIER

sent back to became widespread Federa

presented to

recipient, and a



UPS officials said electronic didn't return telephone calls redocument delivery could acquesting an update on its cur rent plans for electronic docu-

The U.S. Postal Service is testing an electronic postmark that will ensure that E-mail mes sages haven't been tampered with, but it has announced no Memphis launched an electron plans to add the authentication ic transmission service called encryption or message tracking Zap Mail that was outmoded that is found in the UPS serwhen incorporate fax machines

Oracle pushes into application management space

 Database maker moves beyond core market, into packaged software still light, said fonathan Eunice, Lawson Software, Inc. applica an analyst at Illuminata, Inc. in Nashua, N.H. Users "have been

By Cruse Stedman

WITH GATABASES SOSING their tions. Oracle Corp. is rushing to expand the reach of its management software to the application Oracle's Enterprise

Manager can handle database management tasks such as performance tuning and noring But it is being entended to do the same

jobs on packaged apply cations ned to Oracle The new versus which are due within the next year, will support Oracle's own ap-

plications and those from rivals such as SAP AG's R/s. I MANT HEE

Keeping a close eye on applications could help

users nip potronial throughput problems in the bod. Vendoes such as

BMC Software, Inc. Compuware Corp. and Plati-Technology. already offer application manappropriate tools similar to what

But use of those products is

Inc Dunkop Tire Corp.

star status to packaged applicacations up and running than on running," Funce said.

mamnie

is "totally in reac-

tive mode" when it

ing the Oracle and

Hugh Allan, manager of informore focused on getting applimation technology at the Amheest. N.Y-based tire manufacensuring that they'll continue hure Dunkop has took that more tor its Oracle databases for performance bottle-

necks around the clock. Affor raid But about three out of four problems start because of how peo-

ple use the application "be said. 'And we really don't even look at the applications (with management tools). The company is also gun-shy about install ing more pieces of the neckaged application suites because it will be hard to predict the effects on system

tions that run its business, said

throughput, Alian add-Shores, Calif., said Enterprise Manager also will cover applica-S-B Power Tool Co., a

World Wide Web browsers is set for beta-testing this month

And Oracle last week announced three pack ages of optional tools that will work with Enterprise Manager, D

based Oracle database FINE-TUNING

Developers are "struggling to master" the art of tuning the application and database to work together, said Dave Parris, vice president of information services at the power tool maker

Bosch Gmbh subsidiary in Chi-

cago, plans to go live in May

with SAP's R/3 applications

running on a Windows NT.

The task is complicated by the size of the project, be said. Up to 1,000 users will be able to fire away at the application end. Parris added Despite the vendor interest

tools for managing packaged applications don't have nearly as much breadth as the products available for watching over databases and hardware, said Philip Mendoza, an analyst at Interne tional Data Corp. in Framing. harn. Mass Oracle officials in Redwood

tions made by The Baan Co. and PeopleSoft Inc. Meanwhile an Fotos prise Manager upgrade that can be used from

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performance, and serviceability.

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Friendly fire for Gates

know the relative power of a U.S. Senator and a corporate IS depart ment. The IS shop can get a PC from Dell preloaded with whatever Web browser it chooses. The senator - even as powerful a lawmaker to Orner Match who

chairs the Senate Judi cury Committee -Choice is power. And of all the scenes from

last week's Senate hear ings on competition in the computer business the face-off between Hatch and Dell may be the one with the

most important lessons for those who buy and sell information technology Dell thought he was past there to lend support to Microsoft Chairman Bill Gates. Dell's message was supposed to be that Microsoft doesn't corree or intimidate PC vendors into bundling str software or stille choice for customers.

NES TO MICHAEL OUR, WE NOW But Hatch had done by homework And when he confronted Dell with the fact that his company refused to initial Netscape's Navigator on a computer

Hatch tried to order. Dell had to acknowledge that only large corporate cur tomers get to choose which browser they receive with

their PCs. Everyone else gets Mocrosoft's Internet Explorer

Dell admitted, due to "incro-Microsoft probably

had staved in bed. tives" from Microsoft. In other words thanks to Microsoft, most Dell cus-

tomers had no choice after all By the time it was all over. Gates was probably sorry he'd pushed hard to have Dell added to the list of witnesses. All

in all. Microsoft's case probably would have been stronger had Michael Dell simply stayed in hed

But why is choice such a big issue? After all, plenty of customers love Mi crosoft's products. They'd choose those products even if a dozen alternatives nere available

From the vsewpount of a politician, it comes down to power. If you can tell people what they can and can't do, if you can limit their choices, then you have power - and they don't

Senators know about power. Som have been trading in coercion and innimidation and "incentives" for longer than Microsoft has been in business. But for 15 shops, choice is also about

success and business advantage and the bottom line. If you make your own technology choices, you can harness that technology more effectreely for the needs of your business. You can squeeze out more productivity for employees, better

wishes Michael Dell products for customers and high er profits for investors. If Microsoft - or IBM or Ora cle or Sun or any other vendor -

makes the technology decisions, they'll make choices that serve their own needs first. Those choices might or might not give you the maximum busi ness bung for your IT buck.

The good news, as Michael Dell reminded us all last Tuesday, is that the larger your organization, the more power you have to dictate to vendors exactly what technology you'll be using - in stead of the other way around

Use that power, Leverage vendor ompetition not just to get better prices. but to acquire exactly what you need. Make your vendors work for you and your organization's needs. If you don't

do st, who in your organization will? And what should vendors learn from the Hatch/Dell staredown? The lesson is that lawmakers, like Justice Department lawyers and state attorneys general, aren't the doddering dopes many businesspeople believe them to be.

They can be mercilessly effective at drilling through even the most powerful captains of industry. Amid all the soft ball Washington press conferences and cavilized Capitol photo ops, it's easy to underestimate how much power these people wield - and how willing they

are to use it If Bill Gates wants Microsoft to survive the next round of government in vertigations, he'd better not underestimate them again. O

Haves is Computerworld's West Coost bureau chief. His Internet address is frank_haves@cw.com.

Wang boosts global IT services

Mang Laboratories, Inc. in Billerica, Mass., last week merged with Olsy North America, the \$a billion ser vices arm of italy's Olivetti Sps. in a Sygo million deal The combined entity, called Wang Global, has Sy,6 bil Ilon in annual revenue and will provide desktop and network support services in 130 countries. Analysts said the move should help Wang compete in the glob al IT services arens and give the company, which no longer sells hardware or software, a bigger presence in

Intel: Chip demand sinks

Intel Corp. last week said weaker-than-exp mand for its processors may mean a 10% drop in its pated first-quarter revenue and net income. When the chip maker announced its fourth-quarter revenue of \$6.5 billion in January, it noted that revenue for the first quarter of 1998 — ending March all — was likely to be flat. The company's fourth-quarter profits we \$1.7 billion.

Aetna cites Y2K charges

Aetns, Inc. reported that it expects to take a charagainst profits -- Soy million this year and Sag mill in 1999 — to pay for replacement computers as it fixes its year 2000 problem. The Hardord, Cons.-based in-surer disclosed the charges in a filling with the Securities and Exchange Com

Lawsuit over a Palm

Com Corp. is suing Microsoft Corp. in Cermany and slack consumer demand, higher PC prices and sener-

make those courts a good venue for the trademark iningement complaint

GE Capital exits high end

SHORTS

self tried to create confusion in the market wh it unvolled a specification for handhelds — called Palm PC — that is similar to 3Com's PalmPilot. Officials for

the sCom subsidiery said European trademark laws

GE Capital Services is getting out of the data ce outsourcing business by selling its midrange and mainframe outsourcing operations to IBM Global Services. GE Capital, a Sago billion financial services company. said it also will outsource its own data center opera tions to IBM. IBM also picks up all current GE out roing customers, according to an IBM spokes Meither CE Capital nor IBM disclosed terms of the deal. Analysts said the deal will allow CE to focus on its larger decktop and network management service

IBM: Use Sysplex or no discount

IBM is letting its mainframe customers know that it takes more than signing a statement of intent saying they will deploy the Preside Syspies clustering acheme to continue enjoying software licensing discounts. Un-der new requirements, Parallel Syspies customers must show they are actively using the technology if then pe to receive software rebates on certain mainfr human licenses. Analysts said the discounts mean savings of between \$250,000 and \$1 million for arge information materials

n's PC market shrunk 2.1% in 1997, a result of

Japan PC market slips

searcher IDC Japan Ltd. Total PC ship 7.9 million units for the calendar year. NEC Corp. mai July makes the market share spot, with 30% of all PC sales, but it saw shipments shrink to's. Number two PC maker Fujitau Lid.'s market share grew to 24%, folwed by IBM with 11.4% of the market.

HORT TAKES Microsoft Corp. and Cisco Systems, Inc. submitted a final draft of their proposes endard for Directory-Enabled Networks to allow de-topers to build directories that provide a single point nistration for all network resources. . . . AT&I Corp. asked the Federal Communications Comiston to prohibit slamming, the practice of switch long-distance customers from their preferred car ers. AT&T plans to set up a hot line to field busin omer complaints, similar to its toll-free number to umers, . . . Sun Microsystems, Inc. bund pplication development tools in a \$1,995 package for the workstation market. Tools include Visual Workshop C++ Personal Edition, Java Workshop and Java Studio

... Citing White House opposition, Atlanta-based Internet service provider MindSpring Enterprises Inc. has pulled out of the Generic Top-Level Domai Council of Registrars, an organization working to adnister a new series of Internet domain nor nes such as shop, firm and .org. . . . Cabletron System Inc. in Rochester, N.H., this week will launch on elec mic-commerce system that allows customers to cor ure, price and order products online. . . . Gentle Itware, Inc. in Boston will announce next week that Version 4.0 of its Business Intelligence enviro ment, priced at \$195,000 for up to 50 users, will sup port 30 lunguages, 29 more than it supported in prev

ous releases. . . . U.S. Attorney General Janet Reno so she plans to form the National Infrastructure Prote tion Center to crack down on over

Yahoo! is thrilled to

have their new

database up and runni<mark>ng</mark>

ın half a day.

Time is money. And when you get a mission critical database on its feet before your coffee gets cold, there's cause for celebration. Yahooto, the leading search engine on the Web, uses Oracle8" on NT to grow and manage the sales of its Web advertising. Now a global sales staff can access a 7 by 24 data warehouse, easily search through inventory data, and put together advertising packages for their customers. What's more, the scalability of Oracle8 on NT allows Yahoo! to grow their business dynamically, enabling success through rapid access to business information. There's more to shout about. Doug Smith from Yahoo! claims. "Oracle8 on NT gives us the performance, speed and scalability we need, and is the most cost-effective solution out there." The leader chose the leader. and the search was over. Find out how Oracle8 can put exclamation marks into your business. Visit www.oracle.com/8success to learn more. or call 800-633-1072, ext. 12816.



Brainshare to showcase Novell, Microsoft ventures

Br Laura Di Dio

NOVELL, INC. AND TIVAL MICROSOft COPP. are talking about joining forces on as many as five cooperative ventures involving NetWare and Windows NT migration. Commiscreefd has learned

The plans were disclosed by Novell ters last week in Provo. Utah. CEO Eric Schmidt as part of a dress rehearsal for the company's annual Brainshare developers conference, which kicks off March as in Salt Lake City Schmids met with a select group of large NetWare customers at the company's headquar-

Coming on the beek of two consecu-

tive profitable quarters, Novell will unweil its new Four Pillars of Networking strategy at Brainshare. A product road map for NetWare 5.0 and a 64-bit veron integrating its Windows NT operating mon of NetWare based on Intel Corp.'s

Merced chip also will be rolled out at the conference, sources at the briefing

Customers were enthusiastic about Schmidt's pledge to work with Microsoft

system with NetWare. Topping the upcoming products list is a single requester/redirector being jointly developed by Microsoft and Novell that will easily link NetWare and NT clients Schmidt told the customers. Among those at the briefing were representatives from Household International, Inc., ServiceMaster Services, Inc., ComDisco Corp., Baxter Health Care, Inc. and Ouestar Corp

crosoft's NetWare Windows NT connectivity packages in the past. They were OK, but the integration was less than stellar because they tust weren't cooperating with one another on technical details," said a source who asked

to remain anony



BRAINSHARE

Novell's new networking strategy will encompass network services and collaboration, Internet and intranet services, network manageability and application development. It will form the underpinnings of all future Novell products, including NetWare 5.0, company executives said

GOOD NEWS FOR HOVELS

"For the first time in four years, I had the feeling that Novell executives have fashioned a cohesive and complementary strategy and product portfolio," said one of the users, who also requested anonymity. They're all singing the same

hine ' Bob Sakakeeny, an analyst at Aberdeen Group, Inc. in Boston who also attended the Brainshare preview, agreed. He said he was encouraged by Novell sticking to its delivery schedule for NetWare 5.0.. with the final beta version due next month and general availability in late summer

"We're now starting to hear rumblings that Microsoft may slip delivery of Windows NT 5.0 into the 1999 first or sec ond quarter because of complications with Active Directory," Sakakeeny said. "This gives Novell a great opportunity for a comeback."

NetWare's market share has slipped in the face of a withering assa from Windows NT over the past 18

Windows NT Server sales accounted for 47% of all network operating systems sold last year, compared with a 31% share for NetWare, according to Dataquest, a San Jose, Calif., consulting firm. U

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ViewSonic^e

A double whammy awaits

► Gartner Group warns of simultaneous euro, year 2000 problems

leurol compliance requirements

alone" including legal account

ing, local regulatory tax and oth

er demands that have to be met

in addition to addressing tech

nical requirements in software

Worse, the International

Monetary Fund and other global

regulatory agencies haven't set

any compliance guidelines, sayl

Bill Imhof, practice director at

the Albance of Fiduciary Con-

sultants International, Inc., a

Paramony N.I. hased financial

Imhof estimated that big

million to \$200

milion to prepare

The Dow Chem

Kal Co. is dealing

with the euro prob-

lem by upgrading

its SAP R/2 sys

terms to euro-

tems, said David

Kepler, chief infor-

mation officer at

the chemical man-

compliant

land, Mich.

For

Because the euro currency

panies," he said.

banks will have to spend \$100

programs, Iones said.

services consultant

By Thomas Hoffman

THE IT LANGE shortage that is keeping U.S. companies from developing business-focused systems is putting a double whammy on their counternarts across the Ree Pond The skills crunch is making it

tough for European companies to simultaneously complete the two biggest systems projects they have ever faced: the converyou to the euro, the European Monetary Union's unified cur tency, and year 2000 renains.

according to an exclusive report sent to Computerworld by Stamford, Conn.-based Gartner Group, Inc. The difficulty for U.S. multinational firms is that Europe's problems will be

come their prob-U.S. banks: brokerages, manufacturers and componies with overseas interests and inter faces also will be challenged to deal

two problems.

many misconcep-



position I to bandle than many rivals

tions about the curo's deadline and ramifications here in the U.S. For mample, executives at many U.S. companies believe they can attain euro compliance simply by upgrading their SAP prise resource planning systems to euro- and year apportage

Sig mistake, said Nick Jones

a Gartner Group analyst in Lon-EURO TIMETABLE "It's not that sumple, you've Jan. I, 1999 got at least sor differen

- Lock foreign exchange rates to euro Commence dual currency processing
 - such as the German doubsche mark) Jan. 1, 2002 Introduce euro notes and coins
 - Massive switch of retail transactions to euro
- July 2002 Euro becomes soie
- legal tender All processing in euro currency only

symbol isn't located on any computer keyboards yet, companies with extensive operations in Europe will have to upgrade hardware or make software patches. Windows 95-based software won't be able to "read" the rum symbols either, Jones said. For U.S. companies receiving electronic mail from Europe.

ufacturer in Midthat problem should be mainly an annoyance, lones said. non-SAP But for organizations in Eusystems. Dow will shut down rope. The whole desistop usue old reporting systems and legais rather a moneter " he caid cy systems and shift those appli-There is a widespread mis cations to its SAP emissionment. conception among U.S. banks Kepler said. By having a comthat they have a three-year tranmoo enterprise system in place around the world, euro and year conversion after lan. 1. 2000 2000 conversions "will be a lot easier for us than other com-

sition period to make the euro So while Belgians "won't be able to buy corn flakes" with the cure until 2001, lones said curo-sensitive bank and securities processing systems must be ready by Jan. 1, 1999. Imhol

RELATEDLINKS

Existing patch could have stymied hackers

THE SPATE OF hacker attacks that crashed thousands of Windows NT and Windows 95 systems at NASA, government secretary and embendition over two-day period last week didn't have to happen (euro plus local currenc None of the attacks resulted

in any network damage or loss data. But they could have easily been prevented with a free secu rity patch that immunizes Windows systems from denial-ofservice attacks, security experts A NEW GAME

Denial-of-service attacks flood PCs or servers with phony mes sages, which cause the devices to overload and crash. These types of attacks aren't new But until now, hackers could attack only one server or system at a "Now they've automated the

denial-of-service attack to crash thousands of machines simultaneously. That's scary," said Chris Klaus, chief technology officer at Internet Security Systems.

Inc. in Atlanta For instance, doz ens of unclassi fied Navy computers with direct Internet links creshed or Point Loma and Charleston, S.C., and Norfolk, Va., said Ron Broersma a civilian commuter security expert at labs for the U.S. Department of the Navy in Point Loma He said the re-called TearDropa denial of service attack es ploited a glitch in Windows NT that instructs the orders to expend its roemore

resources to solve

crosoft has posted five fixes to

Frank O'Donnell, a spokes

halt those attacks. Khanna said.

man for the Jet Propulsion Lab

described last week's attacks as "scary" invalid data problems. "Any customer that fully unern University, the University of dated their Windows of and

Minnesota and University of Windows NT systems with our California campuses at Berke security bot fixes was not vulley. Irvine. Los Angeles and San netable to these common densal-of-service attacks," said Karan Denial-of-service attacks are Khanna, a Microsoft Windows difficult, though not propossible, NT security product manager to trace because they don't in During the past six months, Mi-

clude legitimate return address The patch, called Teardropa is available from Microsoft a www.microsoft.com/security/ newtoors.htm.C

he is less confident in the patches. "We're not sure how this particular attack came in, so we can't say that the patch would have prevented it." he said Grate Huckabee, research assis.

tant at the University of Wisconsin at Madison, a NASA research partner, said crashes from the denial-of-service, attacks happened very fast. "We had 45 Windows NT [machines] go down at once. We began installing patches right away. They did protect us on Tuesday night when we got hit again, though some NT machines with the

patches did slow down." Hurka-And 14 out of 15 NASA sites were hit late Monday with the TearDropa and NewTear denial of-service attacks that crashed several systems, though a NASA spokesman declined to say how

many.

Among the universities reporting TearDrop2 denial-ofservice attacks last Monday and



Tuesday were MIT, Northwest

Euro projects get the money

ions than at the year 2

said Nick Jones, a Garts For example, according to a survey jones co

han they are allocating to year 2000 fines. That could delay fluropean year 2000 n ripple U.S. companies that depend on fan

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Mobile Desktop

Enterprise

OpenView's future hinges on service

HP attempts to quash user concern with tools

By Patrick Dryden

USERS OF OPENVIEW MAINER ment tools said they are relieved to see Hewlett-Packard Co. reconvenue from second fumbles on the enterprise man aggreent agena and

clarifying the future of OpenView HP last week said OpenView will have a laser-sharp focus on quality of service in other words, helping information systems managers provide the

uptime and perfor businesses are de-



manding To dem trate its removed commitment and focus, HP anclearly showing why you need integrated management tools designed to make OpenView deto report what's meaningful to laver tangible results sooner the hurmer not to the dethan its competitors' suites (see story at muhti

USER CONFIDENCE Now that I know where they are going and how they will differentiate themselves, I feel a whole lot better," said Paul Edmunds, a senior network analyst at Duke Energy Corp. in systema administrator at the Charlotte, N.C. "Every vendor EDS service management centalks a great set of buzzwoods about service management but HP is assembling the tools and expertise so we can make it

Concern about HP's commusment to OpenView flared up pregal times last year

Users and analysts com plained that HP was lost in the battle between Commuter Asso crates International, Inc. and Twoli Systems, Inc. for a market that could reach \$18 billion by

Many wondered if shifting the software drisson to the ser vices division signaled a demo tion. And many were shocked when HP hardware divisions bundled competing products with there survey

There's no doubt left about the importance of OpenView software to HP's business," said Sandra Potter, a telecommunications engineer at Air Products & Chemicals, Inc. in Allentown. Pa., and president of the OpenView Forum user group Users said they were reas ared to hear HP Chairman and CEO Lew Plant stress the strate are role of OpenView reference

Plant said HP's goal is to help transform an 15 manager's from tactical technologist to trustee of cntical business "That goal provides a practical fo-

cus for enterprise management tech nology" that has been missing from CA and Tirols, said lim Herman was president at Northrast Consulting Resources, Inc. in Boston, "HP is

For example, IS managers at Electronic Data Systems Corp. are under pressure from internal users and external custom ers to maintain availability of services, not specific pystems and network connections, said Michael Stollery, an advanced

Cybercrime takes costly toll

By Laura Di Die

A 10 INT SURVEY by Commuter Security Institute Inc. (CSI) and the Federal Bureau of Investiga tion showed that evberceine is on the rise and that security related losses totaled \$117 mil-Son in 1997 San Francisco-based CSI and the FBI surveyed security pro-

fessionals at 520 Fortune 1000 businesses. The following are some of the findings · Eighty-eight percent suffered a security breach in 1997. Nearly 75% suffered financial

losses. Losses totaled \$127 million, a rise of 17% from \$100 million in 1006 · Forty-four percent reported

hacks from inside the organiza-

ter in Sarramento, Cubil "They don't care if we can ping a server 98% of the time They want E-mail database and Web servers available 98% of the time," Stollery said. "HP

is going in the right direction to help us do that. Fern so, HP cur't deliner all the pieces to meet a company's management needs. EDS, for

example, plans to use CA's Una center TNG as the manager of managers to give IS a clear view of business processes. It will interact with HP's network NetScout Systems Inc.'s traffic monitor and RMC Software, Inc.'s system man

·Another 20% emerienced de-

nsal-of service attacks. ·Fourteen percent had ner

works and data subotaged "Computer crime is boom ing, and few people are doing enough to protect against as saults ranging from stolen lap tops to high-tech Internet beist worth millions," said CSI direc ter Patrice Ranglus.

The 520 organo ward reported losses of \$11.2 million from financial fraud \$17.2 million from telecom munications fraud. \$44.5 mil bon from theft of proprietary in formation, \$2.1 million from sabotage of data or networks, \$1

million from computer viruses and \$5.2 million from laptor puter theft, according to

Vendors adopt service model

* Xerox buys network integrator; CA retrenches

By Patrick Dredow

xtsex cosr. last week bid \$415 million for a network integrator. Computer Associates In ternational, Inc. set its sights on new takeover targets. It is a comtinuation of the trend: Service The complex ecosystem of

software, hardware and networks demands expertise that organizations have trouble finding and keeping. So they spend more than one-third of their information technology budget on consulting, outsourcing and var ious services to make technol ony cooperate with business obsectives, according to analysis.

"This is an intelligent move on the part of Xerox," said lim Azewedo, systems developer at Dreyers Ice Cream, Inc. in Union City, Calif., which uses a document management system to track ice cream recipes. "When we installed our system, we had to hire network integrators from an outside consulting firm." He said be prefers one stop shopping for software and

Such demand translated to \$2 billion in document services outsourcing last year for Xerox up 58%, as customers sough help distributing information in an increasingly network-based world, according to Xerox off-

cials in Stamford, Conn That is why Xerox is seeking ats largest acquisition in so XLConnect Solutions Inc. and its parent company, In telligent Electronics, Inc. in Exton, Pa. XLConnect has 1,500

employees and had revenue of \$135.7 million last year. It proindes network management. consulting, design and integra tion services for midsize and

The egal is to better margadocuments across networks and go further designing and building networks for imaging and workflow functions," said Tim Wallace, president and CEO of

For example, Xerox wants to build device-monitoring capo bilities that XLConnect now us es to manage networks into its hardware and software. Wallace

said Then Xerox could offer remote maintenance, supp tracking and chargeback services to create revenue, he said.

CA hungers for such a service arm, but last week company of ficuals said CA would let ste \$108-per-share cash tender of fer for Computer Sciences Corp. (CSC) expire at midnight March 16. That day a court in Nevada where CSC is incorporated, will

hear CA's plea to overturn CSC's poison-pill defense. Some analysts said then doubted Islandia, N.Y-based CA's withdrawal decision, saying they believed it to be a strategsc move to get CSC stockholders to pressure the board to accept the cash offer.

provide not just the as CSC

CA chairman, CEO "I can't be more direct to it's time to just let the offer ex pire," said CA Chairman and

CEO Charles Wang Barring any change in the landscape" with CSC, CA will build up its own services organization and "take smaller steps" in future acquisitions. Wang said.

"It's essential for us to po vide not just the technology but the service," Wang said. There will be other service provider targets this year and next year, he said, but "no one on the hori zon as big as CSC." A service arm would be a stra

track advantage for CA, but they won't be crippled without one," said Charles Phillips, an analyst at Morgan Stanley, Dean Witter & Co. in New York. D Senior editor Bark Cole-Gomo ski contributed to this article



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Politicos debate 'net tax issues

CONTINUED FROM PAGE 1

committees may vote on the issue this week.

The bill appears to leave the contentious ususe of salest taxes on World Wide Web businesses in the air. Such taxes are something many of the nation's go-critics have been tiching to levy. Those trying to sell goods

no worse," said Phil Polishook, vac president of marketing at ETOys. Inc. in Santa Monica. Calif. For now. Web businesses generally follow the same rules as mail order, collecting sales tax only in states where they have a physical presence.
"If it's a flat playing field,

k. There also is concern that a at sales tax would open the door to a tracking tax data not only for 50 is states, but also for 30,000 (by, 50 county and other local taxation is districts.

names change so men, we a need a dedicated person in charge of that, or at least a puriname person, "and Eva Woodsmall, site director at Toys.com in Alladena. Calif. Woodsmall said she hopes that no new tases are passed in the near future. The company already has its hands full with year acoop pegramming issues, she noted. States are worsed they will

lose sales tas revenue as meer consumers purchase goods and services over the Internet. The sales tas "is a 1930 tast in a aust century envolvement, and it can't survive under current rules calling for physical perence and teally uncoordinated and complex administration," said Harley Duman, director of the Federation of The Administrators in Washington.

The National Governors Association backs letting each star creat a single sales tax on electronic commerce, easing the problem of thousands of local tax districts. The governors want similar rights for mail and phone catalog sales. Only Congress could grant those rights because the Supreme Court has because the Supreme Court has

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erament may regulate and therefore tax uniterates commerce. Many in the industry question whether all the states could agree on such a plan and whether powerful cities would forfeit their local traing powers. Meanwhile, officials in California. New York, Massachusetts and Virginia — all with Republican governoer and growing laternet industries — support an intercent tax moseporium.

an Internet tax moratorium.
Utah Gov. Michael O. Leavitt,
also a Republican, said he spent
hours on the phone last week
with Gox anguing that Congress
shouldn't prevent all new types
of state taxing authority of the

Internet. Top White House aide Ira Magaziner told Computerword last week that President Clinton supports the Internet Dax Freedom Act because it creates a commission to hammer out agreement on Internet sales tax collection and the authority of states and localities.

One possible electronic-com

merce scenario the commission could adopt, Magaziner suggest ed. sould let consumers buy goods over the Internet using a smart card encoded with the customer's place of residence. A third-party auditor could collect all the money and then distribute appropriate funds to the vendors and government tax agencies. "Saning, authorities would save money by getting more compliance and extrains."

more compliance and getting money sconer," Magaziner said. Internet tax experts have suggested other methods, including allowing states to tax a Webbased wendor on the total sales it makes in a state if it exceeds a set minimum.

Web business executives are taking the debate in string. "People will figure, it out, and we will do whatever we have to do," said Cyndy Ainsworth, director of marketing at Net Contents, Inc., which runs Virtual Vineyards in Palo Alto, Calif. D

FAQS: Cybertax primer

At the Internet Tax Freedom Act originally called for a five-year moretarium on new taxes on the Internet, but that provision may undergo changes before the House or Senate votes on it. Preside Climton has endorsed the meratorium, which would allow a proposed commission time to consider a uniform way to levy sales

Of the set of the National Communications appears this age. At It has no fine or if his, but the governor group approach the intermed Development Act of 1981. Collisions and New York were among to discussers. This act has the perspicit, the calls for a problem on any time facility. This act has the perspicit, the call not appeal to the first inclination and the set of the

Q: Who cares if you pay toxus on the Internet?

At Internet vendors may choose not to impose any taxes on their continens, but nearly everybody—including President Clintion, Congress and the generous—a supports allowing the same taxes required in a face-to-face transaction to be applied to ordine purchases. Shows endoor swory that they will face as unfair burden is their internet competitions don't pay.



over the Internet said they have two requests for those waging the debate on Capitol Hill: A tax system that handles Web orders the same as mail or telephone orders and one that mil' a night

"We should be treated exactly like a mail catalog — no better.

we're OK with it." said Jamie O'Nell, thief operating officer at Garden Escape, Ioc. in Austin, Texas. "We would not be happy if because we're an internet-based companys, we end up paying tax on every transaction, when a traditional direct marketing company does not."

ble a mad catalog — no better. I ketting company does not." ruled that only the federal go-Collection rules vary from state to state

By Sharon Machiis Bauer store. Uni get a choice on

INTERNET BASED businesses are not created equally — at least not in the eyes of the sales

res system.

For now, Internet-only businesses follow largely the same rules as mail-order catalog companies. That means they collect sales tax only in states where they have a physical presence, or nemas," in tax lings, for example. Virtual Vineyands in Palo Alto, Calif. Anarges sales tax only on orders shipped to customers in California.

But for a corporation such as Eddie Bauer. Inc., which has brick-and-mortar stores across the country, its World Wide Web site must charge sales tax for orders anywhere there is an Eddie Bauer store. Unfaie? "We don't get a choice on it, whether it's fair or not. We don't waste any energy on that," said Judy Neuman, vice president of interactive media at Eddie Bauer, based

tive media at Eddie Bauer, based in Redmond, Wash.

It would be impossible to know if the site loses customers because of the tax without conducting a survey. Neuman said, but she doesn't recall receiving

complaints. "We get more E-mail about charging for shappung," she said.

To muddle the issue further, there are enterprises such as Barnes & Noble, Inc. Although the bookselfer, but stoom

there are enterprises such as Barnes & Noble. Inc. Although the bookseller has stores throughout the U.S., it charges sales tax on its Web site in only four states (Illinois, New Jexsey, New York and Virginia).

The company wouldn't comis ment on tax issues, but observers said Barnesandroble comwas set up as a separate corporate entity and thus has to puy sales tax only in states where the internet business has a physical occision.

"I think that's a fairly common strategy — look to isolatyour nema-creating activities," said Michael McLoughlin, a manager at SPMG Peat Marwick LLP's mational tra office in Washington. States have tried and failed to tax separate mailorder arms of retail stores such as Salas finth Avenue, he said.

and failed to tax separate mail order arms of retail stores such as Saks Fifth Avenue, he said. Some retailers with multiple channels want everyone playing by the same rules so Internet only competitors can't escape charging sales tax. O simple as Main Street, U.S.A. vs. maint.com. The U.S. Chamber of Commerce, for example, has weighed in in favor

allow the 'net to grow Some World Wide Web businesses say they could handle collecting sales tax; it's just a database and programming issue. Others say it would add significant IT costs. All businesses agree that they want an Inter net tax system that's fair. But fairness, like beauty, is in the eye of the beholder. Business and industry leaders sound off on the issue



has always said we wanted no tariffs and custom fees the internet and taxes or access taxes. But we nev

ar said states or cities could not apply axisting taxation."

"It's not absurd to nay the taxes. it's the paperwork behind it that's absurd."

- PHIL POLISHOOK, VICE PRESID OF WARKETING FTOYS INC

"This is the new thing [in media stories about the internet]. Now i'm going to start getting E-mail saying Why don't you stop charging tax."

SRIAN SUGAR, NEW-MEDIA BINECTOR A CREW GROUP INC



are done."

"The truth is that the sales tax is owed today on Internet sales. If you buy over the Internet in the 46 states with a sales tax, you legally

owe the state where you live. Ordinary people don't know about this, and it is not collected by states because of the complex-Ities of not knowing where the sales

- UTAH GOV MICHAEL LEAVITY "If we want to argue what constitutes sufficient physical presence to

require [tax] collection, we can have Iltigation until my kids are through college."

- HARLEY DUNCAN DISECTOR FEDERATION OF TAX ADMINISTRATORS

The battle over Internet taxes ion't quite as "If they're taking on the internet. thay're going to be taking on all of direct marketing."

SHOPORG HOUSTRY ASSOCIATION

"I couldn't look someone in the face and say, 'If we lihave to pay one sales tax rate to each of the 50 states). it's going to put us out of business." From a burden standpoint, it's not horrible."

- JAME D'HEILL CHIEF OPERATING OFFICES GARDEN ESCAPE, INC

to let the states tax at their will and take it to court. Then in six, sever

"The alternative Ite a moratorium! is years, it will go to the Supreme Court." - MICHAEL MCLOUGHLIN MANAGER

"We are pleased to be working

with BMC Software on this project.

said Business Development Manager Travis Muesing, of

Hewlett-Packard. "We have worked

with them before and have always

felt that our products, services, see

port and education complement

each other. Together, we can always

provide our customers with a com-

KENG PEAT MARNICA

Advertisement

Managing Re-Systemization

How U S WEST Dex moved from a mainframe to a distributed environment with PATROL

S WEST Dex, one of many U S WEST companies. sells Yellow Pages advertising, related mailing lists and other products that are derived from telephone directories. In all, they publish over 300 directones with over 42 million printed conies

Handling all of this publishing and taking care of nearly half a millon USA and international clients calls for complete distribution of data 24 hours a day. All of the company's critical applications must be available to thousands of users.

The original mainframe needed upgrading and the decision was made by U S WEST Dex management to move to a distributed environment. Over a period of many months, operational processes were decreased on the mainframe and increased on the distributed systems

U S WEST Dex greated a new called the "System Management Center" (SMC) to proommend products to help them ease and manage the transition. As interaction with the SMC progressed over a couple of months, one partner relationship between two vendors stood out, that of Hewlett-Packard and BMC Software.

"We found that the partner relationship between these two companies was able to satisfy a broad range of our needs. The joint presentation of their individual products tended to complement and such strengthen each other. We saw clear ees to both vendors working with us as a single team rather than separately. We awarded them our contract jointly and plan to order more later this year," explains Project Manager Henry Various of U.S. WEST Dex.

Our business-critical applications have been re-architected into the client/server model to help give us a competitive advantage. We use the Hewlett-Packard systems due to

their mission-critical capabilities. high performance and the ability of Hewlett-Packard and BMC Software to put together a solution These products will provide U.S. WEST Dex with the ability to collect information from their new dis-

tributed computing environment and process it to report the status of individual elements within their IT environment. They will be able to graphically show the current status of all elements of their enterprise. including networks, systems, applications and databases, and manage them through one console. They should realize a seamless, easy transition of critical systems with reduced user downtime.

plete, timely and cost-effective solu tion to their integrated network and system management needs." U S WEST Dex plans to incorpo rate more of the Hewlett-Packard and BMC Software products to provide additional support for IT operations, performance monitorine and IT administration

is reselling PATROL® technology and products because of the tight integration BMC Software is delivering through the HP

OpenView enterprise solutions. Together, HF

OpenView and PATROL provide the highly desired complementary functionality that our

customers need today in the areas of application and data management. 9 9

Johnnie-Mike Ihung, General Manage HP Professional Services Organizatio

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DITT STATE IS A CONTRACT





NetMeeting cuts Dow travel expenses

TO HELP CUT international travel costs for its growing global organization. Dow Chemical Co in Midland, Mich , last fall decided to bring together teams of its workers via real-time data sharing and of the team, Dow officials said

tual teams have reduced the number of trips they expected to take on projects and shortened by 15% the time it takes to edit and pass on conventional electrong-mail documents to other members.

Dow has made Microsoft Corp's Net Meeting document sharing software available to 30,000 desktops at 250 sites worldwade 'rice last October Thousands of workers have downloaded and used it And in a survey of about 200 Dow work ers. 85% said NetMeeting had increased

their productivity, officials said Users within groups of up to 25 have

been able to view documents at the same time from each of their desktons although Dow so far hasn't employed NetMeeting for audio- or videoconferencing A worker views documents on a PC while talking on a normal telephone Dow officials said

We're pretty happy with what we're able to do with it," said Jay Vander Wall, technical architect at Dow's information

A FEW OLITCHES

Two problems were quickly encountered and overcome First, sharing documents over the wide-area network became slow with as workers when one PC was doing all the sharing. To work around that problem. Dow 1S teams developed a system for workers to pool PCs in an office into a hub and connect that hub to others around the world. Vander Wall said

The other prob lem was cetting newcomers used to eticuette. With Net Meeting, data car be shared for others to view only or for workers to collabo rate on In the latter case, anybody can grab the cursor and

edit a document. "The first time people use NetMeeting, somebody might get enthused and grab the cursor and start playing, resulting in a waste of time." Vander Wall said. "They say, "Wow, I can move the mouse."

IS started posture rememders on the Dow Web site that data sharing is like a face-to-face meeting "For instance, when I talk, you listen. And when you talk, I hsten. Or when I have the cursor, let me have it," he said. The amount of travel savings hasn't been totaled, but one team of five workers said NetMeeting saved them two to three domestic trips, worth about \$10.000

Despite Dow's findings about trip reduction, analyst Mike Gotta at Meta Group, Inc. in Stamford, Conn., sayd real-time collaboration may not save on air miles, though he said it might make trips more productive NetMeeting's biggest limit so far is its ability to reach only 32 members in a group, he said

Gartner Group, Inc., also in Stamford, esturates NetMeeting will have 10 million active users in three years, when later releases will support higher-quality audio and video and graphics sharing. The research company doesn't know how many people now use the product. NetMeeting, which can be downloaded

free from the Internet, is by far the largest product in its class, said Gartner analyst Tom Hooper. Competitors include FarSite from DataBeam Corp. in Lexington, Ky.; Atrium from VocalTec Communications Ltd. in Northvale, N.L. ProShare from Intel Corn in Santa Clara. Calif.; and Conference from Netscape Communications Corp. in Mountain View, Calif. D

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as it grew.

The result? On-site technician calls were reduced to twice a year, administration tasks were performed in movies instead of hous, money was seved, productivity was increased, employees stoped in touch and Mari tooled.

like a genius Now frat's delivering www.novell.com Novell.

Layer 3 switching

DEFINITION: An emerging technology in which high-speed routing is built in to LAN switches. The Layer 2 predecassor doesn't perform routing Layer 3 switches off-load tasks such as IP routing and can route faster than Layer 2. They also cost lass than high-end routers. With Layer 3 switching, information systems managers are able to move routing closer to end users without forcing them to shell out big bucks for routers.

Layer 3 switching soon to mature

By Rob Wallace

LAYER 3 SWITCHES boost network performance and may eventually eliminate the need for expensive routers. Network performance increases with

these switches because they have built-in routing and rout ing is moved much closer to the desktop. That reduces the number of devices through which data has to travel

"Layer 3 switching is part of a cohesive switching strategy, nor a one-forone substitute for routers," says Tom Nolle, president of CIMI Corp., a Voorhees, N.I., consultancy, "They're best used today to [off-load] backbone nouters."

More companies are expected to deploy Layer 3 switches because those switches cost less than backbone routers, and prices are expected to denn even more

"I wouldn't be at all surprised if the cost per port of Layer 3 switches came

down 20% to 25% over the next year," said Jim Metzler, president of The Meszler Group, a consultancy in Newton. Mass., and former network manager at Digital Equipment Corp.

'That's because there's a huse amount of competition in this AT ISSUE emerging market. There isn't and price nates the Layer 3 swatching market " he says

Metzler also says he is impressed with the under \$500 per poet list price that Cabletron Systems, Inc. will put on its Liver 3 switch when it ships in May. "And remember, that's list price, which is usually 25% more than you end up actually paying," he says

LIMITED USE

Laver a switches may cost less, but they shouldn't be used yet to replace routers. Rather, they should be used to off-load tasks from backbone routers. That's because most of the new breeds of sweches handle only IP traffic, whereas

routers handle many protocols' For example, most Layer 3 switches lack the wide-area network interfaces that routers use to link networks to the outside

world And IP routing un't enough for users.

In a survey conducted by Infonetics Research, Inc. in San lose, Calif. 64 companies that said they plan to use Layer 3 switches cited multiprotocol routing as the most sought-after feature. Only 27% cited IP-only routing as an important canability

IPX SUPPORT

Despite the increasing popularity of IP, there are roughly 60 million Novell, Inc. NetWare users in the U.S., which represents a lot of IPX traffic, said Larry Howard, an analyst at

Infenence Cisco Systems. Inc's Catalyst 5500 LAN switch supports IPX now, and yCom Corp.'s CoreBuilder 3500 wil ship with it in April, Cabletron's SmartSwitch Routers will shin with IPX support in the coming months, and

Bay Networks. Inc.'s Accelar switch will have IPX support by the end of But there are few Layer 3 switch ven dors that plan support for less widely

FAO: Layer 3 switches vs. routers

Inc's AppleTalk and Digital Equipment Corp.'s LAT

Limited protocol support and the dearth of WAN interfaces mean existing routers still have a place in campus net-

Of the four largest Layer 3 players -Casco, 3Com, Bay Networks and Cabletron - only sCom considers Laver a

switches replacements to hackbone Adding Layer 3 switches to a network doesn't necessarily require adding new

hardware Some vendors, such as Cisco. offer add-ons to their existing LAN switches that transform them into Layer 1 systems Layer 1 switches are faster than most

backbone routers, Nolle says. But it isn't important to users which Layer 3 switch is fastest because most systems can route several mallion packets per second, he adds. 'The Layer 1 switch vendors would have you argue over how many angels can dance on the head of a pus," he says. II



SWITCH IN TIME

Many users with high-speed LANs are looking to implement Layer 3 switching in their corporate data networks.

according to a recent survey of network managers at 104 U.S.

All respondents have at least some LANs with switched 100M bit/sec. or faster technology and are responsible for managing or planning the networks at their organizations.

Source belowers description, Sc., San Jose, Carl

Do you plan to use

Laver 3 switching by year 2000?

itching and regular routing? Not much. Layer 3 switches were designed

Q: Will Layer 3 switches also the performance of your network?
As No. They will improve performance if our router is too slow to support the

agement packages for Layer 3 switches just as there are lots of variations in router packages. IS managers need to look at each Layer 3 switch management package before

Q.Do Layer 3 moltch vendors plan support for

Cisco, aCom and Cab etron, either have support or plan support for Novell IPX. Cisco any vendors will likely stop after IPX support because they feel user companies will B

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YEAR 2000 CHRONICLES, CHAPTER TWO

Y2K spotlight falls on suppliers

· Companies assess readiness of their business partners

Editor's note: This is the second in an occasional series following six companies as they work on their year 2000 problems. This article was written by Julia King, with comtributions from Gary H Anthes, Thomas Hoffman and Maryfran Johnson.

ASK YEAR 2000 project managers what

and results otherwise the southfield giant will do its own tech Nabssen's strategy for non-IT syndom isn't as far along. The company will begin testing electronic data interchance

wheel bearings and brake shoes to PC hoord software

The suppliers have been further cateporized into four groups: software wendors, makers of equipment with embedded code, service vendors and providers of other products such as office supplies. (EDI) connections with suppliers and So far, 60% of those product veodors customers near year's end, said John have responded to the railroad's mornes The least responsive, at 17%, were set vice vendors, such as utilities and banks

But what most wornes Fired Krause the 41-year Umon Pacific veteran charged with tracking suppliers' year

2000 plans, is comput enzed equipment, such trackside even recorders and the black

Virtually all large companies rely on hundreds, if boars on locomotives not thousands, of exter-Four in to of those vendoes have respond ed to Umon Pacific's nal hardware and softyear 2000 survey, but not all of the informaware vendors, utilities. As a result, Union banks, transportation and

Pacific has been its own war zoon testing other service providers of computerized equip ment, everything from overhead cranes in rail yards to trackside microwave communication units

We're just really zeroing in on the identification of this equipment with embedded code," Krause sand. Assessment is supposed to be completed by September, he said. The company will replace equipment that fails to treet its year 2000 requirements.

RRILL LYNCH

tion has been reliable

The supply-chain conundrum poses was ing challenges for financial services many Merrill Lynch & Co. The firm relies on hundreds of external interfaces. Those Jones & Co. to transaction clearinghous es such as The Depository Trust Co.

The difficulty "is waiting for them to

be able to test with us," said Susan Lucchinger, Merrill Lynch's year 2000 program manager

Merrill Lynch plans to enter Wall Street-wide testing with the Securities Industry Association beginning in July

Merrill's 250 internal and contract staffers last fall began working Friday nights and weekends to prepare for the testing. The process had to move forward answay because critical mainframe systems that process and support stock, equity and options trades were entering the remediation pipeline.

As Merrill enters the fourth quarter, st will start integration testing with market data feeds and other groups that process 401(k) retirement plan contributions

Tracking the war 2000 readiness of 150 EDI partners and 52 suppliers of everything from latex to metal wiring us tike a maniacal game of musical chairs for

C. R. Bard, Inc. The \$1.3 billion manufacturer of med. ical devices this year sent every supplier a letter with basic questions about their year

2000 progress, plus an undate on Bard's own efforts in its \$11 million date conversion project The task of communicating Bard's

plans to hundreds of outside companies. as well as raising internal awareness with its own product managers and executives, falls to Cherise Vaughin. She is president of C-Coe PeopleTech, a specialtzed consulting firm in Charleston, S.C.

In less than a year, she has dealt with some 600 people via letters, voice mail. faxes and electronic mail. "I bet it'll beclose to 4,000 people by the time we're done," Vaughn said, the lilting cadence of an Alabama upbringing evident in her voice. That Southern charm takes the edge off her tenacious pursuit of Bard's

One obstacle to getting the answers

Halper, Nabisco's director of project keeps them up at night and chances are management and strategic planning. L" says Charle

you'll get the same answer: suppliers

Virtually all large companies rely on hundreds, if not thousands, of external hardware and software vendors, utilities, banks, transportation and other service providers. A date-conversion problem at any single point in those supply chains could bring a business to its knees. Some companies, such as Nabisco.

Inc., have adopted a "trust but verify" anproach toward suppliers. Other compa nies are still surveying suppliers about their year 2000 plans and their own internal users about which suppliers are most critical to them. With 22 months to identify, fix and

test every supply-chain system, failures will occur. Here's a look at how six compapies plan to minimize the damage.

Trust, but venfy," said President Ronald Reagan of the Soviet Union's pledge to reduce stocks of nuclear weapons Nabisco has adopted that Cold War philosophy toward its suppliers' year

acco readiness Most of the company's 100 information technology windows are industry leaders - a criterion for picking them in the first place - and Nabisco is confident those vendors will be prepared. It needed, though, Nabisco will send a team to inspect the vendors' test plans

tingency plans for critical suppliers. Halper said. It mucht stocknile extra so ventory or make arrangements with alternate suppliers for emergency deliverres, if necessary. You can mitigate risk by visiting key suppliers and looking very closely to see if their Ivear 20001 process is going along fine, but even that is not foolproof," Halper said.

Nabisco may put in place special con

Union Pacific Corp. in Omaha has whittied its list of 16,000 outside vendoes to 800 critical suppliers of everything from

in addition to sending letters to check on suppliers' year 2000 compliance progress, and identifying

East Honover, N.J. · Visiting key suppliers to examin

their year 2000 projects · Testing links to materials suc ers and transportation vendors

Merrill Lynch

. Stepping up work schedule to pere for securities industry

Murray Hill, N.J.

· Hiring a consultant to com

which suppliers they need to slay in business. The following companies are:

· Building a risk mo which supplier interfeces are most critical

Wilmington, Del

· Having lawyers com with suppliers to spur resp

she needs as the ever-changing roster of contacts at those firms, Vaughn said. Working with a 10-person team, the consultant uses a Microsoft Corp. Access database to keep track of about 1G byte of documents on Bard's medical product line, customer information, EDI partners

and vendors When we first started, we might get five customer inquiries a week," Vaughn said. 'Now it's five to 10 a day.

Canadian Imperial Bank of Commerce (CIBC) launched its millentium project in April 1995 with a letter-writing campage to its product vendoes.

There's been a lot of work trying to track down original (software) vendors to find out whether they still exist and if they plan to fix their software, said Vice President John Burns, the bank's year 2000 project directo

The bank also has talked with Canada an telecommunications vendors about joint testing. The challenge in scheduling those tests, Burns said, is that "most organizations (including telecommunica tions companies) are still internally focused on the millennium problem There's been some resistance to schedule integration testing from some

of the hundreds of vendors that provide market data and other feeds to CIRC Burns said. Others are more receptive To help figure out who will make it and who won't, CIBC is building a risk model to determine which vendoes and external interfaces are needed for the bank to stay open. Burns said CIBC hasn't needed to build contingency plans around any single vendor or partner.

The first time Conectiv (the merged A)

lantic Energy, Inc. and Delmarya Power & Light Co.) queried its 175 major suppliers about their year 2000 readiness only 10% of them responded Then last year, the lawyers got in

volved. A second set of letters sent via registered mail directly to suppliers' attorneys yielded a 55% response rate *But that doesn't mean all of the re-

sponses have been enlightening," said Chris Arena, Conectiv's year 2000 proj ect manager. "Some companies just told us to reference their Web page Yet insufficient supplier data may be the least of the \$a billion utility's prob-

lems. Internally, Conectiv executives have yet to put year 2000 compliance on the corporate priority list. So even if Arena's team had received back all 17% surveys.

there is still no plan in place to act on So far, the utility's business manager: have failed to account for computer sys-

including systems for generating and distributing power The \$4 million project Arena heads covers only those systems, such as tems that were created outside the combilling, which were written and mainpany's information systems organization, tained by the utility's 15 group.

Arena said he lacks answers for the letters he receives. "We're starting to pick up a ton of mail from shareholders and customers we supply power to, asking what we're doing in terms of year 2000," he said. []

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www.microsoft.com/windows/nt_workstation/ Where do you want to go today? Microsoft"

Do something! While a roomful of U.S. senators baked Bill Gates

in the spotlight last week and grilled him on Microsoft's business practices, the main political meal sat off to the side, largely ignored.

Internet taxation may not be as tasty a topic; in fact, it's as sleep-inducing as a glass of warm milk. But the threat of it has more far-reaching consequences for our industry and your compa (see related stories, pages 16 and 17).

It is mildly reasouring to hear The Other Bill -Clinton, that is - repeatedly saying that cyberspace must be kept free of new taxes. There is even more good news in the recently proposed Internet Tax Free-



dom Act, which would put a five-year moratorium on any new Internet taxes. There dy are 'net taxes alsince any company st follow the same rule

as mall-order companies do The bad news is that the states are a greedy and shortsighted little bunch, and the National Governor ociation just came out in opposition to the Tax for Act. Except for the governors of more high tech-savry states such as California, New York and ssachusetts, most of these gubernatorial goobers think they should be able to glom onto any server, router or Web page involving commerce across state

lines and call that a taxable "physical presence." Just imagine the aggravation and expense of having to track and collect a whole new set of taxes through your fiedgling Web commerce project. Talk about a poison pill for your electronic future

Like most boneheaded ideas, the governors' is based on fear - the fear of losing current sales tax revenue as people opt for the convenience of Web shopping. But as smart as this industry thinks it is we have a pathetic history of political naivete

So snap out of it! Do something to support the Tax Freedom Act. Write to your state and local politicos. Realize that your company's electronic-commerce future could be at stake. If Washington pols can take s bite out of Bill Gates, what can they do to you?



A message to you analyst blowhards: Triangulate this!

sscown Maryfran Johnson's opinion in her editorial about industry analysts | Blowhards, Inc., * CW, Feb. ol

Things are truly getting out of hand. I can hardly stomach the forum promotions. For example the Gazworld IT Forum held m Scottsdale. Ariz. last summer offered the following: "Come perpared to listen, interact and trian gulate input from users, suppliers

and sowestors." It also extolled "the unique architecture of our briefings . electronic networking unitaring attender bios."

Give me a break! The brochure was enough to keep me away. Thanks for hitting the mark. I hope it raises some eyebrows and spurs some improvesnents

like I know the AS/400

LAVE SOME strong reservations about the content of the review of the AS/400 in Computerworld's review of enterprise servers [*IT Leaders' Choice," Jan 12]

I gathered from some of the comments in the article that the author doesn't know the AS/400. This system is, in some technical areas, years ahead of the market and will continue to be so

Your reviewer states that "its operating system (OS/400) and database management system (D82/400) have limitations because each is proprietary."

If there are indeed limitations,

they are few and far between practices — the government is go-In fact, I would argue that they ing to step in to correct the matter. are no more severe than the limit Les Hortzman tations people encounter with HP Chatsworth, Calif. UX, AIX, SCO-Unix or Windows lhartzma@primenet.com

> Computerworld does its Michael Champ Technical project leade part to spread YZK hype

Ball-Foster Glass Container Corp. Muncie, Ind. LE ABOUT year 2000 hype morrows Orbot Montes com

Computerworld, Jan. 19, page 2: "Cobol programmees may make \$780,000 a year before year 2000." (In their dreams.)

Page 86: "Microwave overns will fail." (Ovens have dates) Page 86: "What will you do if there is no electricity for five days

in a row3" (Sit in the dark.) Page 88: *82% of companies underestr mate Yak costs." (82% of companies underestimate every peninet 1 You

should be ashamed. And Prudential (page 8s) is going to

apparently used to promote its they just fixed their code Steve Wirth

Hamilton, Okso worths@champint.com

Computerworld welcomes comments from its readers Letters shouldn't exceed 200 words and should be addressed to Maryfran Johnson Executive Editor, Compute world, PO Box 9171, 500 Old Connecticut Path, Framing ham, Mass. 01701. Fax num ber: (so8) 875-8931; Internet ters@cw.com. Please in-

clude an address and phone

number for welfcation



assing the point. The whole case account Mirrough insh Robert Watson about what new soft-Phoenix ware features it wants помолоній при сом to add to its products Rather, it's about the unethical document, distribute and test con-You don't know the AS/400 business practices Microsoft has tingency plans. I'd feel better if

products

The issue is Microsoft's

with what features

a software company

wants to add to its

These people as

unethical business practices

opinions saying the U.S. Depart

ment of lustice shouldn't interfere

's STRANGE to read articles and

If Microsoft had samply shipped as Windows 95 and Internet Ex plorer products to the hardware OEMs and not restricted the adds tion of Netscape Navigator to them, there wouldn't have been a case. But OEMs have filed aff davits saving they were theyatened by Microsoft if they removed Explorer or added Netscape. Instead of letting users decide, Microsoft

The market should determine which products win out over others. But when competition is negated - not necessarily by su perior products but by unethical

decided for them

Coming soon: Year 2000 SWAT teams William Ulrich

he computer industry's rocky transition into the next century can be broken into three phases: project management, crisis management and cleanup management. Project management you know about. Cleanup management, which could extend sev-

eral years into the next century, is self-explanatory.

But unbeknownst to many crisis management is the most critical phase of the century transition. It begins an. 1, 2000, and

continues until organizations achieve system, third-party and data interface Nobody is talking about year acco

crisis management planning yet. They'd better start talking soon, or else Don't confuse crisis management with contingency planning (which should be well under way already). Contingency planning is like putting fire extinguishers in a kitchen cabinet. It's a good idea It makes you feel like you're covered.

It's time for IS to prepare the executive suite for crisis management. Crisis management, on the other

hand, is what you do when there is indeed a smoky fire in the kitchen. And no matter how thoroughin you plan, trust me You will face your share of year 2000-related fires. Year acco crisis management requires that you form a team that in-

cludes tactical response units, business leaders, third-party managers, purchasing executives, legal counsel, hot-line support and communication coordinators. Tactical response units, composed of 15 and business professionals paired by area of responsibility, will coordinate hundreds of decisions Tactical response units must be able to

make quick decisions without calling for group consensus, and they must have the grit to escalate strategic decisions to tior executives as needed

Crisis management teams must plan for high-volume end-user change requests, systems software and bardware failures, network outages and queries from business

units expenencing desktop. embedded or non-IT systems failutes. Those teams also must plan to respond to customer calls, regulatory inquiries, third-party delays. mination, power or telecom

munications outages, supplier shortages and broader economic problems From an enterprise perspective, the teams will craft cross-functional recove strategies that can be invoked as problems arise. That's required because un-

coordinated tactical units may end up working at cross purposes. Clearly, crisis management work will be exciting (albeit highly stressful) That doesn't have to be a bad thing. I anticipate that many of the sharpest, hungriest minds in 15 will jump at the chance to work in a pressurized, SWAT team-like environment. Difficult though it may be, you should begin pulling elits talent off year 2000 compliance efforts later this year and start using those workers to help establish your crisis

management team Being forced to shift business strate gies to accommodate year 2000 failures will be the most difficult situation orga nizations will face. Executives should be ready when called on to shift strategies in the face of problems. That is a chill ing thought, but one IS must prepare for - and, more important, prepare the executive state for

Unfortunately, most project offices and business units I've dealt with have not yet established crists management plans. That oversight will result in the breakdown of organizational infrastructures during the early days of the new millennium. Year 2000 crisis manage ment planning should begin soon, be-

Ulrich is president of Tactical Strategy Group, Inc. and co-author of The Year 2000 Software Crisis: Challenger of The Century (Prentice Hall, 1997). His Internet address is topinc@cruzso.com.

Attack of the mutant vendors Michael Schrage s whiny, obnoxious and self-indulgent as your

prima donna programmers can be, one of the few creatures in computerdom even more irksome - and less valuable - is the Persistent Vendor. You know the type. If you spend any serious money at

all, you probably have a few cruel IT sales tales to tell. Sometimes, they're

Be warned: The era of the nemiciously persistent vendor is coming to an end. No, we're not going to see a kinder. gentler vendor evolve. On the contrary We are going to witness the proliferati of a new kind of IT vendor: a multimedia mutant sure to devour ever-larger portions of your time and budget. All m our best interest, of course

Consider this: Computer Associates' Charles Wang is prepared to shell out to billion hostile dollars to acquire CSC. Compaq paid a premium to acquire Digital - not for its Vaxen, to be sure, but purportedly to acquire Digital's enterprise services segment. Now toss in the fact that Oracle's best blend of growth and profit seems to come from its con-

sulting arm and the observation that companies ranging from Hewlett Packard to Platinum to PeopleSoft are committed to expanding their consulting

The vision of tomorrow's vendorship becomes schingly clear: IT companies that once sold you profitable products are counting on selling you profitable services in pure or bundled forms Should we call these new offerings "serducts" or "provices?" I don't care.

There's not a shred of doubt in my mind that we'll see s time fers to license its product at 60% off list price if you agree to a 24-month consult ing and services contract that gives the vendor effective

But you should

entry into your enterprise. There's no question that the ability to bundle in consulting services puts vendors in a position to simultaneously learn more about your business even as they acquire greater flexibility in pricing their offerings to meet the idiosyncrasies of your purchasing procedures.

Consulting budget topped out? Such a vendor would pury: No problem - se'll bundle the consulting into the software licousing agreement

In other words, you'll not only face a vendor that knows next to nothing about your business trying to pitch but vou'll also have

Age bundled offerings

Serducts?" "Provices?"

a conquitant do ing the same thing. Speaking as someone who does a lot of nsulting



has effectively vanished In other words, companies such as yours may, ahem, actually need consultants who can effectively advise the en terprise on the design and implements tion of their wares

Did you notice I wrote 'effectively?" Have you noticed that neither Mi crosoft. Intel nor Cisco have invested greatly in consulting services - vet?

Schrage is a research associate at the MIT Media Lab and author of No More Teams! His Internet address is schrage@ media.mit.edu.

you how psinful that can be. Seriously, though, it's clear that between the labor shortage and the busi-

ness enjoyed by the Sapients, Cambridge Technology Partners and Andersen Consultings of the world, there is every incentive for traditional hardware and soft. were vendors to invest heavily in their own consulting/services arms. IBM cer That said, I want to stress that there's

something fundamentally new about this IT consulting trend. There are more soft ware vendors and value-added retailers and system integrators than ever before in an environment where cheap labor 3 things a LAN Manager can count on:

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and the year 2000:

- I Two out of three
- companies still don't have a detailed year 2000 plan I Of those companies wi
- ans, only one in five are executing them 1 75% of companies will
- pend between 21% and 10% of their 1998 IT udget on year 2000
- 82% of companies clai they have underestime their year 2000 costs

FRAUD FORWARDING

The Federal Trade 500 forwarded F-mail ages each day fron ners who request an stigation of the service for fraud or deception.

${\operatorname{\underline{Briefs}}}$ Companies combat IT labor crunch

Nontechies good in support roles

By Tim Ouellette

1895 MENZIES AND Kyle Sanford landed help desk jobs at IHS HelpDesk Service, Inc. because

Neither had a computer sci-

ence degree or previous computer-related 106 Instead. Menzies had lots of

experience installing electronic alarm systems and dealine with customer service situations. He was looking to embark on a secand career. Sanford "had done practically everything," including positions in offices, airports, netail and telemarketing

RTHODOX METHODS JHS's approach may seem un conventional, but nontraditional information technology workers are bringing a new perspective

to the computer industry and filling much-needed positions Traditional computer science people can make terrible help desk analysts because that is not really what they had in mind for



Warner-Lambert's Rich O'Brien Geft) is b desk with nontechnical analysts such as Kyle Sanford (right) who are recruited by IHS president Eric Rai

their careers," said Eric Rabinowitz, president of IHS. And they tend to burn out faster because they would rather be working on more glamorous development projects, he said. The New York company first

looks for workers who are long on patience and varied work experience, and then it considers perhasical skells As a result, workers such as

through IHS's special training have delivered the most cus-

tomer satisfaction to the com-Rabinowitz said. And they have the highest retention rate, he They make up about 10% of

Menzies and Sanford who or

IHS's overall workforce, and their numbers are growing. Help desk, page 41

Benefits are key in recruiting

By Bob Wallace

toux own \$10,000 account -tax free — to pay for child care, your kids' college tustion, your first home mortgage or elder care. That's among the benefits Xerox Corp. provides to retain and attract IS stell "We basically make a one

time \$10,000 deposit for each [IS] employee," said Bob Monastero, director of human resources for the information systems department at the Rochester, N.Y., comer and

imaging company It is well worth the investment given the shortage of IS staff he said

Xerox recently placed first in a Computerworld ranking of the top 25 companies that excel at Benefits, page 41

MORE THAN A DENTAL PLAN

What benefits are the IS department netting?









Offered III Not offere III Unique to IS department

Base: Survey of CIDs and It resources vice presidents of large U.S.-based companies

Technology trims hospital budget Detroit Medical rence Carroll, 41, vice

By Thomas Hoffman

THE DETROIT MEDICAL CENTER has embarked oo an aggressive treatment for what its managers describe as a bloated cost struc-

The Troy, Mich.-based facility is one year into a three-year effort to surgically remove \$250 million from the hospital's \$1.8 billion expense base.

With the help of Kansas City.

well again.

Mo Josed consultant Corner Corp., the medical center's ioformation services organization is leading the charge to coosolidate hospitals and data centers; streamline its management structure; and re-engineer processes to make the hospital

Center's 600-person IS group isn't operating alone

Eight senior-level physicians, nurses and hospital administrators last September joined the team to work parttime on the contract. The medical professionals will act as IS liaisons

throughout the overhaul project. The members of this operating committee pro out direct input from the busimote best practices and new

processes that the medical center and Cerner have prescribed. and dispense them to their respective departments fon a peer-to-peer basis," said Ter-

president and chief information officer at the medical center. "We have the vice chair of surgery who spends half his time working with us." said Carroll, who not ed that the medical

center plans to reical's Terrence place the IT infra-Carrell: Consult structures io five facibbes beginning this Man "You can't make these changes with

> ness units." Carroll said. The early results have been

The medical center plans to close three of its eight hospitals.

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industry. The whole world is going to change."

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EDITOR'S NOTE

Growing pains

he other day. I had one of those "mowhen a shrouded truth is suddenly laid bare. It came after a series of events, all involving myself and others taking part in the ereat wave

of electronic commerce The first event involved Emmerce editor Alan Alper. For a landmark hirthday celchranon, our department

Today's PIONEERING

Web sites practically have to be their own

> gave ham an online gift certificate to Music Boulevard, which sells music CDs over the Web. Well, it took days for the site to send the gift certificate, and worse, they sent it only after multiple phone calls to the Web un owners. (For a full account of the experience see amon computerworld com/enumerce,

> > mmerce COMPUTERWORLS

Alan Alon alan alper@cw.com EXECUTIVE ERITER Mary Brandel mary brandel@cw.com

DESIGNER Mary Beth Welch ASST. MAGAGING ENITES Marrha Litelder Carle Catalano Prof Gillion

in the "Commentary" sec-

The next incident hap pened to a co-worker who downloaded and beta-rested Digital Equipment Corp's Millscent wallet softwan The trial melf went OK, but the wallet software, which browser, has started causing occasional JavaScript-like er tots. She plans to download the Millicent trial again, in hopes of figuring our how to

The third event involved me. When I subscribed to The Boston Globe online a year ago, I willingly exped in SOFTWARE companies my credit card number and expiration date. Just recently, I began teceiving biweekly E-mails from a company I've never heard of, requesting that I indicate my new existation date on a supplied form. However, I'm just not inclined to give away information about my credit card to a fairly anonymous E-mail sender. I guess l'd prefet a phone call on that one.

properly do a de-install.

Walter Crosb

Tom Duffy Natalie Engles Mark Halper Anne McCrory PRESECTION MANAGES Beverly Wolff

--Kim Propert COMPRIER

The upshot In the busi ness-to-business world, you can work with your partners on those types of kinks and

process details. The best e-commerce practitioners do just that, in extraciante detail (see story, page 20). But business-to-consumer sites don't have that luxury. When you don't know who's going to visit your Web site next. there's loss of guesswork probed and so many uncopected thinm that can en

With thousands of linger ing details to work out, it's become clear to me how preliminary the first Web commerce sites and technologies truly are. What has also become clear is the degree to which today's pronecting Web sites praencally have to be their own software compunies to most consumers very high and well-entrenched expectations. Cer. tainly they're not finding well-honed business practices lying around in packaged software (see story, page 12).

However, analysts seem to think that in the future users will view electronic commerce software packages as we view today's ERP software packages from the likes of SAP, Oracle and Prople-Soft. That is - you would never even think of building your own. Homm - that's progress, right?

mary_brandel@cw.com

Conten The Adolescenc

> of the Upstart

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Ann McCrery

Office !

THE FECHANGE

THE Exchange

For a pleasing commerce site ...

LOOK, LISTEN, ASK AND RESPOND

her 1996. Its finding: Cus-

tomen wanted online order

tracking and the ability to

about online payments

check on moduce availability

- but they didn't care much

"It took a few months, but

there using Perl," Anderson

said. Perl provides a link be-

tween Millipore's Web server

and its back-end Oracle

Corp.-based order tracking

system, according to Claud

von Roesgen, webmaster at

Millipore. "We had a systems

analyst at Millipore write a re-

port that creares an ASCII 64

every three hours of all pend-

FTP'd through the firewall to

the Web server," you Roeseen

explained. Customers enter

their order number, and the

*Customers can now see

ing orders for the previous

month That file is then

BY CARLA CATALANO

Millipore Corp. is one com pany that doesn't like to use a lot of guestwork when it contes to adding features and functionality to its Web stre. "We ask what our customers want and then we give it to them," said Tom Andrews director of corposate communications at the Bedford. Mass-based company

In this way, Millipote - a \$619 million multimational maker of purification products --- is a step ahead of many of its counterparts on the Web. Many companies particularly those with a lor of traffic and transactions find at difficult to analyze and then act on the glut of information detailine what vivitors are doing on-sige. Others are all-too-eager to implement the latest technology without first knowing whether their more loval Web visitors will value

Millipore combines online

surveys with more implicit customer data to create

a well-hoped customerfriendly site.

Online surveys are one way Millipoer takes the customer? pulse, "We were already looking at access logs and loon ducting face-to-face) meerviews, so why not use our Web size to help purposes what our customers wone?" Androva savi

system checks for a mutch. The company conducted

as first online survey an Octowhether or not their order was delivered and even parch into the shipper's tracking sys-

tem," you Roeseen said Product availability is in the works. "We'll probably use an off-the-shelf applica tion to add that functionals we put order tracking right up ty," said von Roesgen, who is currently evaluating Oracle's

WebCustomer. Millipore creates its surveys m Lotus Notes, which the company also uses to collect the survey responses and aggregate the results. 'Any time we go to our database, we can see real-time percentages for various questions," von Roesgen said.

To encourage responses Millipore offers incentives which have included a base bull cap with the company's logo, a palmtop flashlight and a \$10 donation to the Millipore Foundation in the customer's name.

COMMERCE Pulse

Bots Make Better Shopping

COMMERCE IN

1997 ^{\$2}+ Numbers:

in Boston.

is willing to fill out online

missing may be more valid

rting the Secure Elec

also the day Visa U.S.A., Inc. will

begin a two-year waiver of heave

SET fees for U.S. card-issu-

ections (SET) protocol. It's

than the responses.

support and, Somens case

Annual Annual PER-PERSON PER-PERSON Web spending Web spending. 2000 (projected) soo

s9B VALUE OF 1997

electronic commerce MARKET.

\$26B VALUE of electronic com

merce MARKET 2000 (projected)

Response rates have been encouraging. The two annual surveys gleaned 500 responses within three weeks, while a worldwide advertising survey

brought in 100 responses within three days "We wanted to know if the advertising program was believable and attractive and what image it would convey," Ander son said. Using online surveys made that process much quicker and more cost effective. be added But companies that

want to follow Mill: pore's success with on line surveys should keep their eyes open. "Surveys are a good indicawind's blowing, but we also do extensive mining of our access logs and face-to-face surveys with customers to gauge what's happening with the Internet space. Anderson said

surveys may be important, to follow that information alone St. Long Up Web Merchants and Banks THERE'LL be no feeling cyb

Indeed, while the informa-

tion collected from online

chants or banks starting April Fools' Day Or will there! That's the day MasterCa

"growly neglects sampling methodologies" that are nec evary to understand customers or Internet users in general, said Chris Servine an electronic commerce ana-

The challenge is to figure out how to leverage amplicit

information in addition to croficit information Implica information reproves what a user does on the Web sac. while explicit informa-

> rion data such as name. address and telephone number. You can do that in

part by analyzing access logs, von Roesgen said. "It's like looking over your users' shoulders and watching pages you can't see the smile on their faces but you can see what ther its doing," he said.

For example, Millipose nonced people were inputting catalog numbers in the site's search envise

without inserting the lyst at Aberdeen Group, Inc. spaces dictated by the company's marketing materials. "By For instance, not everyone creating special pages than have catalog numbers without spaces, we averted this probtioned, the information that's lem for our clients," von

Roeseen said. The company also uses

Microsoft Corp.'s Usage Ana Int to analyze details such as number of years and number of pages vacwed per visit. While log file analysis tools are good enough for 99% of Web sucs, the sheer amount tion includes registra-

of information those tools collect would be unmanage able for large sites like

Amazon.com, Stevens und When you have mashyte: of information, just putting it into data warehouses and usme a conventional decision support tool is a very large process," he said. "What's fascitating," he added, "as that a bunch of companies do next to nothing to bridge the gap between what their customer say they want and what they do on the Web utr.

As for Millipore, at will continue to use online survey as one way to make its size more useful to customers. Anderson said. After all, visin to the site have doubled since its implementation in 1996. And, he added, "that's where the common on "

Catalana is a lawlance writer or Holloton, Man-

ts and banks seem to be ng. The only problem is,

to - and mar 5 - an sti ET. Lack of clir

Darryl Peck, CED of Cal Outpost, Inc., a Kent, Conn., re seller of com auther area nce SET until c mor for it. "If they ove ing get it working, wo'd be t first in line," be said

BY TOM DUFFY

MasterCard Interna tional, Inc.'s vice president for global purchasing, an electronic purchasing devo-Jones his office at MasterCard's headners in apply named Purchase, N.Y., Cullinan is overseeing the firm's move to an online purchasing system. His staff just finished beta-testing a system from Elekom Corp. in Bellevic, Wash., which involved about 52 million worth of pur-

chasing, barely 1% of the company's annual \$200 million procurement budget. By firing up their Web beowers and tanpung into a catalog housed on a Windows NT server inside the firewall, buyers age able to choose office supplies, computer accessories and promotional sackres without ever having to root around for a pa-

With MasterCard's previous procurement system, a handful of vendors were listed on separate online catalogs, accessible vsa individual proprietary applica tions. There was no routing, and orders were sent in batch files to the appropri

Now, once items are chosen, the requisition order is routed to the appropriate manager for approval. The system notifies the purchaser

of the approval via E-mail and sends off a purchase order to the supplier, either through fax, E-mail or electronic data interchange

(EDI). In the near future, purchasing data will be aggregated, categorized by commodity type and transferred to Master-Card's general ledger system. But Cullman doesn't want to sope there.

He envisions a day when less durable purchases, such as advertising, can also be made electronically. "I'm talking about marketing collateral, multimedia buys. trade show buys," Culliban said, sketch-

ing out his futuristic dreum. But while decrease catalons have been around for years, true electronic procurement is in its infancy. According to one estimate, fewer than 20 such systems which marry sophisticated purchasing soft-

BEWARE of thorny implementation ware with robust electronic catalogs, proholds the promise of nearly immediate cost savings, from reducing the labor reviding a central, searchable database of an enterprise's suppliers, automated routquired for processing purchase orders to

ing and linkages with back-end systems - have been implemented in the U.S. toom-contract At the same time, the area is often rout-At Advanced Micro Devices, Inc., a ed as one of the bighest payback --- and

The theory sounds great. The National Association of Purchasine Management estimates the administrative cost of procossing a typical purchase order is between \$120 and \$150. Yet the average order is less than \$500. Bringing technology to bear on this high-volume, low-dollar area

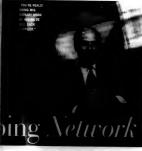
thus one of the fastest growing - areas

of electronic commerce

PROCUREMENT SYSTEMS show

more closely managing suppliers to increasing the number of products bough

\$2.4 billion semiconductor maker in Sunmysale, Calif., Pat Guerra, vice president of corporate supply management, said by expects a newly installed procurement system from Sunnyvale-based Ariba Technologies, Inc. to save his firm up to \$25 million annually on more than \$1 billion worth of purchases. Part of the savines will come from directing buyers to fewer sellers. For instance, the number of PC



signs of BIG PAYOFFS, but

issues and as-yet-unknown COSTS

suppliers will go from six to two.
"If you can channel the \$5 million to \$10 million you spend on PCs to a couple of sellers, you can imagine they are going to give us preferential treatment" in

the form of discounts, he said.

But what are the up-frome cours? Both
Guttra and Callinans said it's noe early to
estimate the teach cost of implement spates.

And Committee the control of the control

multiple suppliers — can range from \$250,000 to \$2 million. And that's not including implementation.

Implementation issues can be thorny, particularly when you're trying to get smaller, less tech-savvy supplies involved.

For instance, MasterCard found that its largest suppliers, from which it purchases millions of dollars in office matenials annually, were eager to go along. More difficult were the smaller specialty stationery makers with which it had worked

"The larger suppliers tend to be more on the forefront of rechnology and have more of the capital to get there," Cullinan said. "But with the ones who do specialized work, their forte is the product,

not necessarily technology.

Computes also have to decide whether they want to hose the catalog themselves or leave it up to the procurement software wedge. Patie for the Electric Co., 49% billion utility in San Francisco, took the forance option and is sharing the responsibility of managing the data with its sup-sibility of managing the data with its sup-

"We've always maintained the content internally, so why not continue" and Scott McCormick, PickE's project manager. Suppliers update the information at regular intervals by sending it either via electronic mail. FIP or distributed video disc.

trone mast, F1F or digital video disc. PG-SE launched the system in November using software from Commerce One, Inc. The system features about 30 wendoor that account for roughly half of its \$1 billion in annual purchasing vol-

ume.

The system relies on heavy integration with SAP. After generating a requisition form and monitor, it for suproval, the system queries a matter list of potential purchase items within SAP Thas lites contains additional information on part numbers and intensity availability that it added to the requisition. From there, a purchase order cither it generated on paper or sent

via fax or EDI to the appropriate supplier.

To limit the branagement duties of this approach, some firms choose a hybrid solution that provides a minimal "nem, description and price" catalog with a hot link to the seller's Web site for more ro-

bust descriptions.
On the other side of the fence, Chicago-based Bise Cross and Bise Shield Association chose to hand over all catalog maintenance to Requisire Technology, Inc. But that decision led to some unforeseen

Because buyers have to connect to the catalog via the Internet. Blue Cross has thewed up close to four months enhancing the proty server on its fiewall to ensure that client etcored are protected, according to Jonathan Handler, national Plant turn to next page

III VIURI STORY ELECTRONIC PROCUREMENT

Continued from page 9 contracts manager for the firm.

Blue Cross also encountered some bumps when trying to sign up suppliers. While some were eager to participate, others either didn't have the technology to ac-

cept electronic orders or wanted the company to conform to their own proprietary solutions - primarily EDL As a result of the delays, a pilot project involving about a half-dozen vendors did not been until last month. "You're really doing missionary work by having to sell

each supplies," Handler said.

Yer another issue involves standards Without standardization, buyers and selfers are locked into proprietary designs that either have been built internally or purchased off the shelf. Several developing standards, however, promise to enable buven to tap into any Web-based catalog without first coordinating their systems with the suppliers (see sidebar, below)

Despite these issues, procurement managen are upbeat that their systems will yield significant savings. Cisco Systems, Inc. in

San Jose, Calif., expects a one-year resum on its investment in a lava-based Ariba solution, according to Carolyn DePalmo, Cisco's procurement manager. Cisco launched an Ariba electronic procurement system in January, with a catalog featuring 17 vendors, covering roughly half the company's estimated \$500 million in nonproduction purchasing. The Ariba application runs on a Unix server, while the Oracle Corp.-based. catalor sits on another

At Cisco, low-dollar, high-volume irons with preset prices are chosen from the catalog and orders are shipped directly to vendors. For some higher priced purchases, the requisitions are imported into a separate Oracle purchasing application, where the approving manager creates a purchase order and then ships it to the buyer. In both cases, the orders are sent to the seller via Email

DePalmo said savings will come in part from rationalizing the purchasing process on both sides of the equation. With better record keeping of what the firm buys from whom, she said she believes Cisco will be able to control its expenditures more tirbs ly and win better contracts from regular

LOOKING AHEAD The future of electronic procurement seems limited only by the dreams of its users While MasterCard's Cullinan funcies clertronically purchased trade shows, AMD's Guerra envisions a day in the not-too-distant future when sales invoices will no longer he needed. Given that purchase orders would be based on catalog information maintained by the seller, he said. following up with a paper invoice would be redundant. As a result, a large part of the accounts payable staff could be redeployed to other areas

"What we want to be able to do is to say. Once we've got an electronic receipt, within 30 days we're just going to pay you," Guerra said with delight. "We call it 'eval usted receipt settlement' and we're talking about a huge paper reduction."

Not quite the paperless office. But it's Duffy is a freelance writer in Somerville.

STANDARDS struggle

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mins of opening the door to on to could be the world of electronic

ritum of buyers, soliers an ding Ford Motor Co., acts Corp. The good is to an of that will let a more at an Oli op purchase greats from

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traily would be Off-realised, alling the use of internal cotalogs and ning on Web-board cuttains also

or. Sees weeder whether it will

De biggest is inde risi supply chains, old Verson Roomen, a senior analysis non Roomenth, inc. in Reviewed City. Call. "And I don't use it meeting all the

reads to that area." Montehile, he pointed to OTP as po bly offering more flexibility, OTP proper --oring forward, it is Mosty that salet on the contrady support more

mertine is large good that COI some was record to be all

per, PCs and software. It's billions of another step closer ers, and It's the No. 1 problem if you

EC said. EC done.

It's can to talk about electronic commerce, but a real challenge to make it happens. For more than 15 years, we've been implementing bosiness-to-bosiness. Et's dutation for entergrees talking and small. Extending communities, or entergrees talking tracking communities, reducing cycle times, lowering costs. Helping companies skie your sollor the competition of the competit



COVER STORY COMM

The Adolesce of the Upstans

It's a PIVOTAL YEA for the commerc SOFTWARE PIONE

By Wark Halper

cy on the control of the control of

or all ses success as an online sales company, Dell Computer Cosp. practices a decidedly low-tech means of syag as Internet-based orders into as legamentation outcome.

The way it works today, we re input them," said Bill-Monto, Dell Online's senior markering manager. Perery and organs, especially for a company that expense more than \$1 billion in collate sales they year. Morris knows this crude approach could thereten that most accessance of bissience sendowers cousomer telutions. With link real-some information, it could take Dell several days to alera a contender that a particular larger in emporaging unwailable.

But, if the Dell order system directly toed into the company's manufacturing system, then Dell could gain efficiencies in managing inventoy and pure supplies. A link into the financial systems might do the same for the company's accounting procedures.

Such improvements would help Dell enjoy what Redwood Cry, Calif., marker research firm Zoan Research, her labels the 'umouch sipple' the will rushy usher in the rea of decreasic commerce. In a rippling decreasic world, an order on a 'Web size would ripper time trashluteions across a company's systed databases and, alcally, spread out to the company's world-be assorbites and selection.

And therein line the chillings for readon that chim to offer "non-potamin electronic commerce solvers. As opportune grow series and state stilling as a few Web, pioneering commerce solvers as providers inch as Connect, Inc., Open Marker, Inc., Boardyrion, Inc., and Neurope Connemiscianism Caps, will no longer get by more on the strengths of a solid transaction space. Their defirming more yet well beyond properly and and the solid transaction space. Their defirming to your below properly and their provider most dependent on include integration noted and services that provider most define the space with the provider most defined param and even suppliers.

And that only the text of their childrengs for 1998, Take a company like Open Market, which the the pound naming in 1996, coping as go public when anything "Internet" was white bots. In short order, it realised supply \$70 million in oversarie for the centic year of 1997. Like Canners, Bread \$50 million in oversarie for the centic year of 1997. Like Canners, Bread white mad orders, Den Market also ventured our managere canners using so whate their stories. But then, last year, when the losses mounted up so whate their stories. But then, last year, when the losses mounted approfits to looked were further shalfed excess or in among WM Streeter.

and potential customers tilke.

Today, many users balk at the hefty prior tags those products carry.

While some vendors, such as IBM and Microsoft Corp., offer barr-bones starter itsin beginning at \$5,000 to \$25,000, come quickly add up to sixty figures or more once the heavy lifting of interguistics and sixt completing.

begins.

What's more, implementation and integration can drag well beyond
the vendors' promised cime line. "Add a buge additional fudge factor of
Plane turn to page 14

COMPRISION COMMERCE SOFTWARE

Continued from page 13 100%," said Bruce Guptill, an analyst as Garener Group, Inc. in Stamford, Conn. 'If the vendor says 90 days, figure 180 days," be advised The latest financials look promising for

Open Market and BroadVision, though Connect still lags (see ridebar below). But now the vendoes face a new challenge -belving customers advance to a new level of electronic commerce, namely the Web-enabled enterprise.

But here's the rub: The users most noted for pushing the ball forward in Webenabled commerce have often bypassed the packaged solutions and built their own systems from scratch. That involves using a tool like Allaire Corp.'s Cold Fusion Pro fessional or Microsoft's Front Parv to build

the store presence; signing on with a ven dor like leat Corp. or Mescantee, Inc. to build and manage the catalog; and hoping and praying their open application programming interfaces (API) will enable some sort of linkage with back-end operational and payment systems

PACKAGES DON'T ALWAYS DELIVER While build-your-own customers may yearn for an easier path, they will only be

able to take the packaged route if the packages can deliver So far, "they're not quite there yet in their ability to interface with existing business sentems," said electronic commerce analyst Vernon Keenan of Zona Research Chances are commerce software venwithin their own walls. That's why many are engaged in an organic mating dance intended to attract multiple partners, from systems integrators to enterprise software companies to network companies and In-

ternet service providers. Open Market and BroadVision, for instance, have struck alliances with consultants Cambridge Technology Partners. Inc. in Cambridge, Mass., and KPMG Peat Marwick LLP. Furthermore, Open. Market's latest release of Open Transact ancludes a new set of APIs that it promises will cut integration time drastically. IBM, besides running a mega-milliondollar marketing blitz for its relatively new entrant. Net.Commerce, also brings access to its 500-plus integration portners dors will not find integration capabilities and its massive Global Services division.

Checking UP on the UPSTARTS

unies that bigged the electronic con san tail on pushing our the que

Afficulty held Co inc. and Breadfloips, inc. all continue to reort lesses. The fourth, Retscape Some Corp., does not break out

o hat appears to be struggling with its ranic commerce efforts as well. Here is a look at the challenges facing the four pinners, in the coming way.

Connect

RPANICALS: Connect is the original trail Master and the company with the most per in its back. By its own admission, Connect has not been foring well intoly. The colect \$14.6 million in 1997, when sales good to \$9.4 million from \$10.1 milli ous year. A recent infesion of \$30 Most in private financing has helped been meet on the support. But analysis are no

and the purious will receive with "Roy're making the right moves, but we don't know yet if it's too late," said Garts resp, inc. analyst Bruce Gaptill.

FOCUS: During the last year, Conadad an amprofitatio sinitra sarricas dis med its product effects on

But Connect runs the risk of littles with its recent expe -

m. Ther are two dif

turn. Fruit of the Look, Inc. sold it is re-e alling its commitment to Connect, as is Noc., Inc. Connect has also been v land by Web consultion, so one cost Time Worser, Inc., closed to Dres and another, Women, Inc., filed for best of's biggest challenge is to co mine that its termed is belief it, and it is a visite company in business for the long

OLDET: The company has some b logy business in take care of, such as mak ettile with Gracia Corp.'s Oracled. It will also need to provide a Windows NT various of the product, which car other reason soully and Units survivers.

Netscape FRANCIALS: Notecape posted \$530 million

\$30.3 million fourth-quarter less. Its re ent that it would lay off 400 con pass, or 13% of its workforce, has the in the block, smalling the sale of pieces of the ers of the Jone stanc (1984)

TECHNOLOGY: At Notscape, the ch salls to its Ma

Now feetures are as the way, as the ny piana this month to usual on expanded amid the turnell, will Notacape be able to get Commerce/port out the door on time! hafer, on analyst at Moto CSP is Parks, dealets It. "Two boom trying to get in in see it, and it cooms the ther have publing to show me," she noted

ACQUISITIONS: The company is adj to new ownership of the MorchantZeori act line, bening fully acquired it only a short time ago from 6 ctric Co.'s GE information Service division. The company's acquisition of t rver and tool company files Software Corp. should give it a greater ability

Successful painings with the likes of SAP AG and AT&T Corp, will range from casual business alliances to serious marrages; as analysis predict a spart of mergers and acquisitions. SAP already has purchased a 10% stake in Commerce One, Inc., a Web-malded

procurement software vendor. It also has formed a joint venture with Intel Corp., called Pandesic, to sell commerce sales software. "We're in the beginning of a market

consolidation, where companies are searing to fold into one another," said Carl Lehmann, a vice president of electronic commerce research at Westpoer, Conn.-based Meta Group, Inc. Sorry consequences await those vendous that prove un-

in-ossed meta Catoup, Inc.
Sorry controquences await
those vendors that prove uninteresting to influential
partners. 'In 1998, some
companies will cease to
be,' aid David Alichales,
director of electronic
commerce market retearch at Boston-based

Market will have below a life size forward.

BroadVision

PROVIDELS: Dreadfalor is up a red. Resease for the fourth quarter and lag flow. 22 cam up 125% to 50.0 million, and results for the year rane just as anconverging, up 50% to 527.1 million. Leases for the year about to 57.4 million.

FOODS: the ter set, directivism has covered out a self expectation as the commons software reader that specializes is constructed as to take the contribute a commons afte to take the contring precessables to a return state, always the Was absoper products and drafts of opendts, internal to differ discourse.

is interest to that stapper.

Brookfishes director of product marketing Heavy Bury Intelled at the suggestion that the examples stoughts stop thous.

"No are a coloning company and a transaction company," Bury cold, maintaining

transcribe augine as in deals.

COSTONNER PRECEDENCY Unes with a strong interest in developing continues policy in them are banging from throughly from the costoling to them are banging from throughly form throughly form throughly in the cost throughly from throughly in the cost throughly from throughly in the cost throughly from throughly in the cost throughly throughly the cost throughly throughly the cost throughly throughly

- WAS WAY

Abendom Group, Inc. The surviving companies will not only have the requisite core technology but "will also have good alliances and partners for both sales and technology," added Garner Group's Gup-

THE GROW-YOUR-OWN ROUTE

Until commerce software vendors expand their offerings, their main compension may not be each other but, rather, inter-

and IT departments.
Federal Express Corp., for instance, built the exhandley that supports in Victual/Ordep regream, which is in same selfs are commerce and catalog-building program. The deferry gaste evaluated packages from several weaton, reducing Connect and Nesscape, to help support Virual/Ordet. The program ultimately size in to Feddis's massive customer desthases six to feddis's massive customer desthases.

the company's Memphis data center.
"We looked at a bunch of those packages a long time ago and tried to make a go with one of them, but we have such a customized way of doing things that none of the wendon were flexible enough," explained Susan Goddnet, Fedli'xi manye er of Internet technologe, "We needed

picky lettle TedEx-time.
Mille Janns, vice president of marketing for FedExt logistics, electronic commerce and catalog from the lettle discussion for FedExt logistics, electronic commerce and catalog of winner, like lettle catalogies of the present and the lettle catalogies of the lettle catalogies of the lettle catalogies of the lettle lettle catalogies and the lettle lettle catalogies of the lettle let

The reasons for NECX CEO Heavy Bernaloni decision to build his own notware were similar to Fedificis NECX consomers need to mit and match thousand of parts in counteless permutations and combinations. NECX, which had what Bernalon called a "payagheris code" order system to support an existing phone order operation, did not see the sense in alting an outside no grapple with that.

"When you're trying to aggregate Please turn to page 16

"IN 1998, SOM COMPANIES WILL CEASE TO

date commores derives to backand detabases. Whether Neightages can alanti-those two acquisitions in light of its

Open Market

PRINTALE: Diese Mariet in desembe also alle HE Rough in the United the submergial and best HE Rough in the United the Section of the HE Rough in the United the HE Rough in the HE Rough in the HE Rough in the Mariet and Section in the Mariet and Section in the Mariet and Section in the HE Rough in the

TECHNOLOGY Open Medic's emission has sport considerable then integrating their Mich systems with existing detailers. Open Merick recently emission of the adding application programming interfaces, (API) to the first three Programming Control of the ARIS South

COVER STORY COMMERCE SOFTWARE

Continued from page 15 tremendous quantities of supply and make it available for immediate shipment to cus tomers around the world, and allow the to to search in a way that's intuitive and easy to navigate, we haven't seen anything yet that can do that," Bertolon said.

The resulting system, he confessed, "is not a Mercedes-Benz, but it is a well-soled

Similarly, Seattle-based oundoor equipment and clothing vendor Recreational Equipment, Inc. (REI) quickly found out about packaged software limitations. REI launched its online store in September 1996 using Netscape's Merchant Servet It soon discovered that the software was not nimble enough to support the pracand product combinations REI was accurrented to offering in as stores and mailorder business. For instance, promorious such as two-for-the-price of-one were meke

So online store manager Mart Hyde and REI's technology department found themselves rewriting and modifying the software to the point where today the com pany is basically using homogrown code Hyde said it would be unfair to single out the Nerscape sofeware. At the time REI was evaluating packages, almost two years ago, "all the systems were young and

cy systems," he noted Furthermore, Netscape has since undertaken some major modifications of its own and this month plans to unveil a vastly improved version of what it now calls its MerchantXpert server, to be called CommerceXpert Suite, according to Netscape sensor product manager Anna

Netscape could, in fact, win a deal with Bowling Green, Ky.-based Fruit of the Loom. Inc., one of the first Connect cur tomers. Like FedEx, Fruit of the Loom is both a technology vendor and a user, as it extends commetce programs to its distributors, which use the clothing manufacturer's technology to run their own com-

Ron DuMoulin, manager of systems development at Fruit of the Loom, said the company is testing New and welfavor and will use it on a customer-by-customer

basis if it does well in beta testing. Compared with the Connect software, it ports better actors different platforms, he said

COMING OF AGE As commerce software vendors strike narr-

nerships, expect to see fewer companies rely on homogrown solutions. The fact is mone of the successful downwardfers happen to have stable, competent IT staffs

- a claim not all companies can make. FedEx's internal IT department numbers more than 5,000, about 300 of whom are systems integrators. Industry observers point out that some of the new onlineonly merchants with high-volume sites. such as Seattle-based Amazon.com, are escentially software communes. Not every one has that sort of wherewithal

"I take no glory in writing our own soft ware," said REI's Hyde, who is now look one to IBM for nackaged software

Mike Starkenhurg, chief technology of ficer of Kent, Conn.-based online computer retailer Cyberian Outpost, Inc., echoed that remark. "I can't was to get out of the software writing business," he said. In time, analysts expect the commerce

software market to mature to the point where home growing will become an exception to the norm. "You could look a the electronic commerce server market to were not really built to integrate into legaday as the ERP market was five or eigh rears ago," said Zona Research's Keenan In the mid-80s, a lot of organization built their own human resources and surply chain applications, whereas today they would be foolish to do that with the availability of packages like those from SAP

and PeopleSoft, Inc. In the next few years. a lot of the packaged electronic commerce software will grow to similar dimensions

The open question is whose package will be around five years from now Halper is a freekaser seriter in Sca.

For a full analysis of the leading commerce software providers, state our mine companion Websites, Emmerce, et ware companyorld conformatic, under the Feb. 23 "Butt" item.



Build or Buy?

"The scale of your business is important. Do your customers need to drill down through a list of specifications across product caregones? You don't buy that off-the-shelf. But if people need a shirt in a certain size. Jesus, Jesus - that's pretty cass to do."

HENRY BERTOLON President and CEC Peabody, Mass (warre mecs.com)

MIKE JANES



"The biggest competitue to electronic connierve companies is not each other but roll your own."

Vice president of ed catalog divisio Federal Express C

"In generic businessto-business commerce systems, there's quite a bir of functionality we're not finding, like order routing

and approval processes." IS manager, no



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GENERATIONX VI

Step aside, HTML - a more data-driven option is on the way

WALTER CROSSY

that sinking feeling you get en you first hear a new hoology mentioned — that re's some big industry seand you've never heard

out it With Extensible Markun ausee (XML), this "Titueic moment" came about a year and a half ago for me, when I was talking with an old college friend. As he explained XML was destined to extend Hypertext Markup Language (HTML) to make embedded data on the Web more usable Searches would make more scuse, results could be ana lyzed for content rather than just presentation - it sound ed almost unbelievable

But based on the recently finalized XML proposed specification, we now know that while HTML will continue to be the standard for presentation and document publishing, XML will become the preferred standard for displaying database-driven data on a Web neov

THE TROUBLE WITH HTS

What's wrong with HTML? Take a look at today's online catalogs - products are diffi cult to search for, you cannot compare prices across suppliers, and it's difficult to update the information from existing enterprise resource planning (ERP) systems

With XML, most of the page markups can be made directly from the online product

database: Linkages with finuscial systems will be a key part of this functionality. In fact you can expect the big data

have vendors soon to offer the option of generating XMI documents from standard Web queries

The upshot is that applications like catalog development will become data- rather than publishing-driven. Expect the electronic commerce group to take on more responsibility for this function - and inter-

> With XML, we should be able

to build truly

DATA-DRIVEN applications.

act more with marketing and catalog nunagement. With XML, we should be able to build truly data-driven applications and make the

data accessible to programs, viewers and even client/serv-Today's full-text search engines are another application The key will be the careful ripe for XML. Full-text is arrest definition of Document Type Definitions (DTD), hopefully with some kind of industryspecific standardization. It is imperative that each industry start developing standard

for finding published documents, but it doesn't work it you want to do a warrh to find all of the California red wines made before 1992 that you can buy for less than \$40 per DTDs for the kinds of objects bottle in Chicago. With XML they will want to present onspecialized search engines will consolidate information

WHERE ELECTRO MERCE COMES IN

Along with better catalogs on other great application for XML would be a procurement system for large corporations. loagine a system where

the purchasing manager maintains agreements with a few suppliers, each of which over the same YML specifics. tion to describe its products. The purchasing agent allows corporate employees to accros the internal catalog and when a product selection is

made, the purchasing intranet checks for the best price. quantity on hand and speed of delivery. If everything falls within allowable specifications, the purchase is routed to the sampler and fed into the

standard financial system This capability is nearly im possible with today's HTML specification, but expect it to

be a standard product feature from the ERP and ERP-link age wendors in the very near future. Suppliers will band to erther in come un with a standard XML DTD for office sup-

from multiple sites around the Interact, presenting more on portunities to reach cus-One thing is certain: You're

going to bear a lot more about XML. In addition to analyzing the ways XML can be applied to current projects, you should also start working with your business partners and competitors to come up with standardized DTDs Others wise, you may find yourwill in the unsavory position of adapting your systems to

match your competitions'. If you are currently work ing on an EDI project, you should immediately start reevaluating the project. You should look at whether the information could be better de

scribed in XMI. Seek out a partner that will provide the service of XML-to EDI conversion and work with them. This step will allow you to start developing your standard XML documents and, at the same time, work with those clients that are no able to provide you with YMI. type transactions

Creater or a resemblyed on Reland leaves assistant entegration I be in still trainer to finger and few 118, multi-aredia He can be marked at average fit salam and who

See Emmorce coline for rees and an interaction forum on the book.

BY FORGING SYSTEM-TO-SYSTEM LINKS WITH ITS SUPPLIERS OVER THE INTERNET, ADAPTEC PREPARES TO COMPETE MORE AS A JUST-IN-TIME OPFRATION

By Anne McCrory

D alones Marcuel couldn't noterate the thought of raking a document of it in thought of raking a document of it in thought of raking a document of it in the raking a document of it in the raking a document of it in the raking a document of the crownord, that is catchy when a document of the crownord are Adapter, inc. used to document in any partners of the cross in "lid does not streeth your gays witners." the apost routed by our photon on mottes to the apost one monings. "That would drive me over the edge,"

That's part of the reason Marciel led the charge in 1997 to implement a \$1 million decremor; commerce system that in a year's time would enable Adapter. — a Milpitas. Calfi, connectivity prudents vendor — to send purchase orders and design information over the latence descript so in Far East suppliers' composers. But the had some far bigger reasons, as well.

Lât coming manufacturing cycle into the control of the control of the competition that on we their own flaciones, (Au Tübles' manufacturin. Adaptec contracts with chip foundries and assembly houses to make its products). Adaptec control of the co

"It would have been easer to do something on the [maintenance, repairs and opcrations] side — low risk and low return, but safer," said Marciel, vice persident of procurement, who led the project, called Adaptec 2000. "But it wouldn't have gotten such a huge ROI out the door."

In an industry as volatile as computer manufacturing, where build-to-order PC maker Dell Computer Corp. may have set the new standard, many contract manufactuters are talking about electronic commerce. But Adaptec — which makes computer peripherals such as network adapter cards— "is actually pulling it off, is

one of the early success stoness bear, 'said Scort Landsaumt, director of recenth at Advanced Manufacturing Research, Inc., in Boston, 'To early be able to compete as a contract manufacturer, you have to become chis land of agile, near-senimentary kind of shop,' he noted, 'To do that, you have to fonge a closer relationship with your component suppliers.

BUILDING BRIDGES

Adaptec's electronic continence system does just that by enabling postern-to-system communications with its supplies over the Interner. After evaluating 30 different wendoes. Adaptec selected software from sartup CrouRoute Software, Inc. in Redwood Shoess. Calif. CrouRoute: Jura-based Alliance allows the entrepties ensource plan-

ning (ERP) system at the primary user, or hub, to communicate with any type of computer on the other end. It does this through the use of "adapters," which serve as bridges between the Alliance application programming interface and an ERP application, such as SAP (which Adaptec uses). Alliance runs on a Windows NT serve.

Before CroniRouse was in place, buyers would print a purchase code or design specfication and fast as to the local office of the supplies, which would then refax it to the manufacturing location in Asia, explained Stowe Robinson, electronic commerce manager at Adaptec. There, someone would input the data into the connectice.

Today, when the Ndaptre buyer leys in the purchase order to SAP, it tragges the CrossRoute product, which sends the order over the Internet and into the supplier's system. That process takes minutes, compared with four to six days the old way. Robinson explained.

The design and manufacturing process has been similarly searationed Foreign, this just mere for the process of the control and a fighth, proof to applic, to prove the other cent. Now, they are saved directly to a network desirectly that appears of the originator's inc. The file is was over the Internet to a desirectly that appears are not proved to the originator's inc. The file is was over the Internet to a desirect that the proper size. As E-mail mensage them both the originator and the seripent that the drawing has been received.

The automation allows buyers and engineers to resolve any problems or make de-

right next door



sign changes without pulling the job out of the queue for manufacturing. Marciel esplained. "Our objective was to take the enter or out and improve our accuracy. And the electronic commerce solution is absolutely enabling us to do that," she said. Adapter turned to electronic commerce when its customers — compunies like Dell, Compaq Computer Copt, and IBM — began asking for shorter cycle times. Already in the midst of implementing SAR Adaptee initially chose its three suppliers with the longest lead times and began to study processes to determine where efficiencies could be obtained.

Next, the company began involving all concerned parties up from and getting buy- in at all levels. Much of the system's 51 million budget went to consultants, studies and stravel to Asia to work with the suppliers: ASAT in Hong Kong, TSMC in Tanwan and Soko Epson Corp.

in Japan.

ASAT went live Nov. 4 after a month of testing. TSMC aemed to be up this month. Selko and two other suppliers will follow.

"It was an interesting program to go

It was an interesting program to go through," used from Endicore, who was vice preadent of marketing and sales at Seiko Epson when the Sussa. Japan-based wafer foundey began working on the linkup, "Large companies have a ten-

dency to sort of piod along, and making a paradigm shift is difficult. It's more emotional," be said.

TSMC was already using electronic data interchange (EDI) and was excited to enter the electronic commerce areas when approached by Adaptic, said Moory Bodars, distorate of SIMC North America, disdiction of SIMC North America, and Adaptics offer to help pay for part of the \$100,000 peaking, as it plans to become a bub itself and entered the CrosiRoute Capublity to its caustomers.

"Lead times are so critical that anything we can do so out out a day here or there becomes a great advantage." Bodsin said. "For the rest of our customers, this gives you the viability into the fab as if their fab were sitting next door to you."

Future Adaptes: plans call for adding transactional capabilities on in Web as the large cuasioners, complete with full backet and integration. It is made and integration to make the company's occurre EDL committee has been rechristened the EC committee. In character to drive an electronic commenger strategy for the corporation, Robinson stati. "That's the scope [for '98] — take a mey back, see what we've got in place and create a correctors wholin".

Marciel concurred: "What we want to do is continue to push the technology buston."

McCours is a managing editor in the Computerworld Magazines Green.

Off THE Books

COMPILED BY CARLA CATALAND

DO YOU HAVE A FORMAL EC GROUP?

He asked usungers how electronic commerce is organized in their companies

Susan Boster Director of Marketing BarnesandNoble com, Inc. was lumeandable out

y of Sames & Noble, Inc.

'ne just kired] a corporate g officer who heads our nerce group and nes & Noble, Inc. The group scludes the vice pres riegs. the vice are

Chip Perry Director of Inf The Printers Co. www.pdbbury.com

close. Our faces is int der this catheten. I men -

ethe, and the public relations director is also

Barbara Vaughan Diane Silver Web Site Manager Vice President of In Spendel, Inc. www.commitmen

hac in 1994

American President Lines www.apl.com "OUR GRO started out

Alth me as the ant official staff er with a volunteer or two the last six months, it has vices. Tied within that group are although it is not an effsales, customer service and in

on strategy. Our strategy division and inciif, the director of proc

Flawed SSI

THERE ARE MORE THAN SO MILLIAM COPIES of Secure Such ets Layer (SSL) encryption subware on the street tudes But just because it's manageous doesn't recent to Barriero

Central issues beyond the scape of the protocol can easily course mentions to be income Two examples are lay manage ment and bad, flavord or modfied software, according to Paul Kochec provident of Cryptograply Research, a Sun FranciscoHERE IS INCOMES TO

for the group." Cryptographer reveals TOP 10 problems with software



The Software Minute

Extending your enterprise in a connected world.

Jerenge your application involument on your way to the Web, Lots, Damins Go Belsector' is worked from de-Kap in miniframe with consistent term, UPs and management. It is not provided in a "redit support for "rise over-from anywhere" functional and his power stated lever where a send to extreme S. (Most revent example: Supran) Fire free, full-function. Both synchrotic mode for B. Hadons, VK, US-22, Sun Subric, HFA V and UV, with wax such care for the supran of the support of the supran of

Buds and sweath for e-basines asset. No BBM e-Vented Tiresall for Bindon NT feature-3 different firesall architectures to possible a multilayer defense and 30 problemed services to get you up and running quickly, the thatels hardwing of Windows NY, intrassic description, and the production of the problement of the

Make departmental "content owners" part of your lich site solution. NetObjects Teamlission is the first alfordable site-building software that brings a robe-based approach to the challenge of centralizing countrol over site development, while distributing content management to contribution-spread throughout an organization, was unodiference united saminate.

We had transactional thele apper from remain where you run no evident globaluses and apper IIIM. Useries provides an integrand solution for developing deploying and immerging remembraging and e-locatives transactional systems. In include and integrand collinate of USE Javanius transactions processing monitor, Wigheries. USEN'eries and Latas Danius Go Richerestro votated related to the processing monitor. Wigheries extraording or developed may be also used for an individual constructions.

Manga Windows VI resources from real to only silmed to long year chair. Took TVE 80' vertices. 50 fee Windows VI was noted best of 4 fearing network management odorious used gold at 1000 used by Vertood Grapating. Its Backfollow certified, interspecified, with other environments, intuitive to use and fully Web-readed right out of the Jos. A limited version of this Editor's. Choice solution is available from at agreement, and of the production of the Editor's.

The second secon



Grow fast.

1884 Setsoric
Company
Framework can
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potential relaxant
solutions III
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It necespasses

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Technology helps trim medical center budget

CONTINUES FROM PAGE 37

resulting in \$50 million in savings. Another \$80 million is expected to be spared by implementing oew clinical resource management systems and

processes.

Another \$20 million to \$30 million in savings will come from general hustness administration improvements.

And the Detroit Medical Center has begun to use knowledge

management systems to improve patient disgnoses and treatment approaches.

SLIM ORGANIZATION
Carroll said be expects to gener-

ate "meaty" savings, such as consolidating seven data centers into two before the end of next

year.

He didn't specify cuts to the medical center's IS group, but he said the hospital is overhaul-

"What we're really trying to do is plow more knowledge into

our products and patient services [to]

patient services (to maintain a very cor

petitive position in the market.

Detroit Medical Center

ing its management structure There are six management lay ers where there were to previously. The hospital has slashed the number of vice president in finance. IS and human re-

sources from 15 to seven.

The three hospitals being closed won't really impact the communities in question, Caroll said. Two of the three hospitals being closed were located on its five-bospital campus. The health care programs for the hospitals being closed will conspirate from closed will consopied being closed will consopied being closed will con-

tinue. "It's just a consolidation of space." Carroll said.

As for the other hospital being shut down, it was geographically close to another facility, he said. So the decision was made to close one hospital and invest in the remaining facility to reduce the impact on community services.

As a result, the hospital clos

As a result, the hospital closurgs 'are not a big [community] assue,' Carroll said.

'What we're really trying to do is plow more knowledge into our products and patient ser-

vices [to] maintain a very competitive position in the market," Carroll said, The former CIO as Bay State Health Systems in Springfield.

Mass, Carroll was recruited by the Detrost Medical Genter two years ago to lead the project. The medical center is trying to integrate operations that historically were run separately among the sight feedings.

among its eight facilities.

Like many hospitals across the country, the Michigan institution ran separate administrative functions, such as payroll and billing, at each of its facilities. An important goal is to save money by untifying those

nysiems in fewer facilities.
Medical center officials declined to specify the value of their contract with Cerner consultants. But Carroll said the parties designed a shared risk/ reward contract, so Cerner's compensation will be teed to the Detroit Medical Center's performance soals.

PERFORMANCE

Under the contract, the medical center has to reach predefined performance levels measured against business statistics, such as consulting costs

against business statistics, such as operating costs.

If it reaches those goals, Cerner stands to win more than \$a5 million in bonus payments. Jif the medical center falls

short. Cerner is obligated to plug additional resources land people? soto the project "to help us achieve minintum performance levels," Carnoll said. Hospitols such as Detwick Medical Contert are in critical condition — they need to invest in information technology to improve patient care and surimprove patient care and sur-

in information technology to improve patient care and survive in competition against rival facilities, said Andrew Rushmere, president of Avant Information, Inc., a Simi Valley, Calif-based health care systems integrator. On the other hand, health care providers also are

being forced to reduce their expenses in the face of managed-care cost pressures from health maintenance organizations, Rushmere said. C

Benefits are a key recruiting tool

CONTINUED FROM PAGE 37

retaining information technology specialists [CW, Feb 9]. The company is among a growing number of companies that offer their workers more than med-

ical dental and retirement plans.

Newer benefits include child care arrangements; recognition incorrants that reward leader.

ship skills and extra efforts: product or services discounts; and occasional sabbasicals. Some of those benefits are more widely offered than others (see chart, page 37).

"Because there's heavy competition for acaree resources aggressive companies will look to come up with creative and Beable perks that differentiate their firms from those who don't want to step outside [conventional] human resources processes and structures," said Linda Pittenger, vice president and managing director of IT and managing director of IT

consulting at the Hay Group, an IS management and human resources consultancy in Philadelphia.

"Those who don't step out side will be the firms that strug gle to recruit and retain staff."

Pittenger said.

GMAC Commercial Mortgage Corp. offers telecommuting as one of its many benefits.

"We pay for [Integrated Services Digital Network] lines to two restricts testifications.

they can work from home, as well as all the convenences they could ever ask for. [That includes] the latest and greatest lapsops, which we replace every year, cell phones, pogers and so on," said Niraj Patel, chaef information officer at GMAC in Horcham Pa

"It's tough to compete with small technology companies that are offering stock

offering stock options - Bill Hickmott Liberty Mutual

"Money is good, but as long as you're market-fair, employees are much more willing to stay longer if the benefits are solid," Patel said.

NOT JUST PAYCHECK Federal Express Corp.'s benefits

program includes such items at on-site fitness facilities, employer discounts on its shipping services, sports leagues and telecommuting on a case-by-

care basis.
Timothy Regan, manager of advanced information develop:

ment at the shipping company in Memphis, said he is more interested in employees who are looking at the big picture both pay and benefits programs. "If they're interested solely in pay, we don't gravitate toward them as much," Regan said. "People looking at the total package are the ones that we look for because they're employ-

ees that will last."

Some companies use their location as a way of retaining staff and luring recruits from big

"If they come to work for us and live up here, they can get away from the hectic commune to Boston," said Bill Hickmort, manager of technical professional staffing at Liberty Municipal Information Systems in Portsmouth, N.H., which is about a 90-mmitte car ride northeast of Boston. "We offer a different type of lifersyle from different type of lifersyle from

Its latest radio ads mention easy access to numerous ski resorts and outdoor attractions on the coast. "It's a card we play with potential staff." Hisconott

the city."

But Liberty Mutual competer against the Boston area's mann high-tech companies, many o which are start-ups. "It's tough to compete with small technol ogy companies that are offering stock options," Hickmost said, ©

Nontechies are good for help desk

TINUED FROM PAGE 37

"Right now the best help deep cape with the proper who have gene through our training programs." said Rabinowitz, who was a help desk analyst for five years. He helped promote behavioral screening and personality training as a linchpan of IHS's strategy when the company was formed four

THE PAY-OFF

Two years after his initial training, Menzies is now a help decinanger st polmono & Johnson Co. in New Brunswick, N.J. Heoversees to other IHS help desinalysts brought in by the phamaceutical giant to support 2,300 users worldwide.

And Sanford is in the early stages of an eight-week assignment at Warner-Lambert Co. in Morris Plains, N.J. He is helping to support Microsoft Corp.
Office products and is beginning to help with Warner-Law
metris SAP AG RJ; milliont.
Expect to see more such recrailment, especially on the
help desk. The flood of more
complice, software systems used to
rum businesses has help deak
phones imaging, analysis sand.

complex software systems used to run businesses has help deals, phones ranging, analysts said. And even with the rise of self-belp World Wide Web sites, help desk call volume is expected to increase 20% each year in the near future, according to Meta Group, Inc. consultants in Stamford. Conn.

But the placement of technical nowces at major corporate help desks initially left some IHS clients lees; "It was a new experience for us," said Rich O'Brien, a help desk manager at Warmer-Lambert. O'Brien oversees an internal help desk staff

that calls in additional IHS workers for peak periods and major software rollouts. While it may take a technically savvy worker four weeks to

ly sarvy worker four weeks to learn new systems. HS's new transees can take up to sn weeks. 'A lor of our clients have to be convinced of this approach, 'Rabinsowitz said.' So clients that get new belp desk analysts may also receive a price break until HS's feels the workers are up to speed.

bven so. IHS staffers at Warner-Lambert — such as Sanford — have worked out well, O'Birion said. That's because "there are definitely different skills required to handle a help desk call, and today it is more important for users to gain a comfort level that their question will be answered one way or another, 'be said. D TO SUSTAIN LIFE OUT HERE. TO A FEW THINGS VOICE

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As networking becomes more complex, more critical, we're doing a few things to make it a lot less wortisons. For starters, MGIs created the most advanced data network available. We're deploying SONET technology throughout our network, allowing for rapid restoration and re-routing.

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Why not call MCI today at 1-800-659-3479 and find out how we can help you and your company. After all, what's there to lose, besides an extra wrinkle or two?



The Internet

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A new era of appliances

. 53% of U.S. houset

- want to browse the Web · 42% want to browse
- without e PC . 39% want to send and
- receive E-mail without a

PURCHASING POWER

04 1997 Internet users who pur

chase online: 17% net users who rowse for product infor metion online: 60%

$\operatorname{\underline{Briefs}}$ Sun revving up cross-platform Java

By Sharon Gaudin

IF SUN MICROSYSTEMS, INC. plan to soup up its Java Virtual Machine (IVM) works, users

may not have to decide between performance and platform inde-Sun plans this week to announce that it will use a new just-in-time compiler from Symantec Corp. to add some plunch to its virtual machine. Sun officials said the new virtue

al machine is even faster than

Microsoft Corp.'s, which holds platform independence without all industry records.

Microsoft has dominated the lava virtual machine murket since it entered it, optimizing its virtual machine for Win dows, the most popular desktop platform. Striving for crossplatform capabilities rather than focusing on its performance on Windows. Sun has taken it on the chin for being behind in the

speed earne. A faster Sun IVM could be corporate users' chance to get

giving up on speedy applications. And that is a choice users have been making since Java hit that boosts the execution speed

the market. "I use Java because it's VIRTUAL MACHINES. converting lava cross-platform. That's what I byte code into native code on need. But if it was fast, too, that would be very good," said Brian McGuare, director of Internet

administration at Econometrics Inc., a database marketing firm in Chicago. "I need the platform independence, but I'd like

A just-in-time compiler is a basic component in Sun's JVM

of applets and applications by the fly. That is faster than havme the IVM interpret code as it tnes to run an application

Symantec released Version a of its Just-In-Time commiler a few weeks ago, embedding it in Sen, page 48



Clickspeak

Add-in brings voice controls to Web browsing

By Gordon Mah Ung CONVERSATIONAL Computing Corp.'s World Wide Web brows er add-in has joined a promine field of voice-recognition applications. And in spite of its cool factor, the voice-enabled product carries common questi about whether users will find

value in the technology Conversa Web lets users select hypertext links by reading aloud words from a computer screen. It supports scrolling and key commands such as "show favorites" to make cruising the Web a nearly mouseless experi-

ence. It runs on too of Microsoft Corn's Internet Funioner 4.0 and replaces buttons with spoken icon commands.

The first release of Conversa Web doesn't allow users to use voice to enter uniform resource locators or searches, but Conversational Computing officials said Conversa will support those actions in the future. The product is available as a down \$20.05. It lists for \$10.05.

Analysts said tools such as Conversa and other application specific voice-ercognition ers. tems may have a limited lifespan depending upon what Microsoft does with its voice recognition project.

Microsoft last year invested heavily in Belgium-based Lernout & Houspie Speech Products and has its own in-

XML means E-retailers must speak same lingo

Br Sharon Macklin ALTHOUGH XMI IS NOW 20 offi cial World Wide Web standard. it is going to take yet more stan dardization before the protocol

fulfills its promise of simplifythe Internet. Extensible Markup Language O(ML) is basically a streamlined version of an older protocol set called Standard Generalizari Markup Language - SGML Lite, if you will. A key feature: Programmers can make infor mation in pages easier to find and index by assigning it to specific categories using document

"It's a way of specifying fields that describes what the content 15," explained Alan Karben, as sociate director for interactive development at The Wall Stree IML, page 48

At Extensible Markup Language is a way to define and share document information over the Web. It is a streamlined version of Standard Generalized Markup Language (SGML), which has been second for more than a decade

Q: When did XML become a standard? A: The World Wide Web Consortium issued XML 1.0 as a recommendation Feb. 10.

Q: What are the benefits of XML?

A: XML gives more flexibility than conventional Hypertest

Markup Language (HTML) in defining tags, which identify content by type or format, within a document. HTML has only a fixed set of such definitions, whereas XMI, lets Web publishers create their own tags for things such as "company name," "price" and "headline," for example. That allows such inform tion to be exchanged among Web sites — as long as both the sender and recipient use the same tax definitions. Standard definitions have set to be worked out in many areas.

What elie would you expect from the world 5rd

Why decide between a fully-featured PC and a thin client when there's a network computer that's flexible enough to be both. The AcerPower" FlexT4000". It's the only solution that lets you convert a sealed Net

PC to a Managed PC with a 32X (max.) CD-ROM or floppy drive. Or vice versa. Giving you the

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features: DMI 2.0 compliant,

needs change. Plus, the AcerPower FlexT4000 makes administration easy with advanced manageability features. And. AcerPower FlexT4000 models start at just



\$767°. What else would you expect from the world's 3rd largest PC manufacturer?**



PC and in Managed PC's





Sun is revving up cross-platform Java

CONTINUED FROM PAGE 45

its own fava application development tool. Now Sun, which has been using an older version of Symantec's Just-In-Time, will deop the faster version into its Windows and its Java Development Kit Version 1 1.6, which is due in the second quarter

faster and makes Sun's IVM timo, Calif

as fast as native C++, the per formance model for application developmen lava, a fairly young language. has taken some very public lumps for its immaturity and

speed problems If Symantec's Just-In-Time brings Sun's JVM to panty with Microsoft, Hot Spot should pull it well ahead in speed, claimed Cina Centoes, head of platforms at InvaSoft the Inva forward non-Microsoft officials declined to

This is great for developers who have turned to Sun because they want cross-platform but have had to sacrifice speed Maybe now they won't have to choose," said Karen Bouches, a vice president at The Standish

PRODUCTS

NICK OF TIME nion 3.0 of Sa

Expected to be 50% faster than Version 2.0 Journal already uses SCML in Expected to speed up Son's JVM by 10% to ternally, in its articles database to define things such as "brud-"author." "company

4 Symantec claims Its compiler is 50% faster than the com rosoft uses in internet Explorer 4.0

15%

Group International, Inc. in Dennes, Mass Ranson said Symanter's new Just-In-Time features better code-generation capabilities The better the code, the factor of

The second step was to en able the compiler to evaluate the byte code and decide if it needs to be compiled. That way it doesn't waste time compiling something that doesn't need to be compiled D

XML needs standards

CONTINUED FROM PAGE 45

Journal Interactive Edition. The

name" and "stock symbol" so its pard subscribers can search the archive for those subjects. XML Karben said, is "casier for people to understand. They don't have to read through a book that's 400 pages long Using XML instead of Hyper-

text Markup Language makes in samplez, say, for the Journal to streamlined set of standards send some articles to other Web sites for reuse. As long as all the sites agree on definite such as whether to use "hitle" or 'headline," for example, the Journal can send its top three stories of the day to other size without having to worry about where the headline stops and

the story begins and other for Clickspeak matting headaches, Karben But there's the ruly Everyone

CONTINUED FROM PAGE 45

house development effort as well, industry watchers said.

sion of Microsoft Office, it would compete only with products from competitors Lotus Development Corp. in Cambridge, Mass., and Corel Corp. in Ottawa. If Microsoft integrates speech recognition into the Windows operating system. however, it could make voice

recognition more common making it less likely users would need to buy a separate voice add-on for a browser.

Still, Conversational Computing officials said they believe Microsoft's roove into voice recognition legitimizes it for the public and corporations

ets price, will have to overcome the hurdle of it being limited to Web browsing. "There would be other things I'd like to try before that," said Michael Burns. director of technology at the Raiston Public School District working on competing stanin Omaha. Burns said he would rather see a product not limited

doesn't employ any voice-recognation technology, but he has researched it for use by disabled employees. He also expects voice recognition eventually to come to the desktop, most likely

The new version runs to's

run 10% to 15% faster than it does now according to Alfen Bannon, director of developer relations at Symantec in Cuper-Sun will follow that beent with a larger increase this sum mer when it releases its Hot Sout Virtual Machine Hot Sout

was designed to make lava run

ing World Wide Web sites.

According to the Redwood

City, Calif., company, the soft

ware lets users create Web

pages using any combination

of graphical, textual or Hyper-

(HTML) editors. It enables

designers to select and apply

and "wipes" to Web page ob-

of dynamic HTML A full ver-

sion of the Allaire Homesite

Fusion 3.0 costs \$295

INFOSPINNER, INC. has an-

nounced ForeSite 1270 Inte-

gration Server Version 2.6.1.

server software for World

Wide Web-enabling legacy ap-

the software provides access

to legacy systems using 3270.

Java. ActiveX and Open Data

base Connectivity interfaces

It now includes support for

server-side scripting objects

improved cache setup and

The Dallas company said

actions such as "mouseover-

jects without any hand-

Corp. is included.

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Net Objects

Markup Language

NET OBJECTS, INC. has an management and an integrat nounced NetObsects Fusion ed Hypertext Transfer Prototo for Windows 95 and Wincol server for testing. dows NT, software for build Pricing starts at \$10,000. InfoSpinner

(972) 479-0135

www.infospipner.com SITE TECHNOLOGIES has an

nounced SiteMaster 4.0, a tram-oriented World Wide Web site development and management commonwest The Scotts Valley, Calif. ompany said the software has a client/server authoring environment and a shared

Lo HTML editor from Allaire The SiteMaster 4.0 Devel oper is \$905, and the Production Server is \$795. Additional clients cost \$295 each Site Technologies 40\$1 461-3017

> NETSCAPE COMMUNICATION core has announced SuiteSpot 3.5, software that supports and manages users

on large-scale intranets and global extranets

According to the Mountain View. Calif., company, the server lets users create unified, international directory systems and store and manage users' information in more than 35 languages. It can filter unsolicised bull mail, offers traveling user browser-based access to electronsc mail and comes bun died with Netscape Directors Server 3.0 for centralized management and with Net scape Communicator ches software

The Professional Edition costs \$140 per user. Netscape Com (fiso) 912-2500

SMARTDESK, INC. has an nounced SmartDesk Web Suite Version 1.1. software for creating and managing World Wide Web sites from Windown-hosed PCs According to the Laguna

Hills, Calif., company, the package enables Windows 3.2 Windows or and Windows NT users to create Web sites or Web applications that can be shared over the Internet or corporate intranets. It in chades a chat system, a guest book, counter and log propers a download area, firewall security online adminutration a database, a development en

viconment and a virtual name

server. The price is \$00.05 (714) silta-sofin

has to agree on naming conven tions. That's easy enough for a handful of businesses conducting transactions among them ives. But what about more ambitious goals, such as search,

ing through product catalogs across the Web? If one manu facturer uses the tag "price while another uses "product price" or "cost," XML-based data exchanges grind to a halt

XML naming conventions are emerging - even proliferating - some critics saw

NEEDS MORE SUPPORT The fledgling Open Trading Protocol, backed by MasterCard International, Inc., was designed to use XML for a variety of Internet payment schemes. It is supposed to allow electroniccommerce software to interoperate regardless of payment technology. Version 1.0 of the

protocol is due by lune Several dozen vendoes are sn volved, but other major credit card companies haven't joined. Meanwhile, multiple other electronic-commerce groups are

dards, with little effect so far "I get calls on a daily house from groups trying to get us to adopt their standard." sak Sangam Pant, vice president of engineering at Lycos. Inc. in Framingham, Mass. Neverthe less, he said. XML could "change the whole searching experience on the Web" once stan

dards finally evolve What we need is one more

level," said Patrick Naughtor president and chief technical of ficer at Starwave Corp. in Seattle Starwaye is a partner in creatime Web sites such as ESPN SportsZone and ABCNews com "It's still the Wild West Then

usn't a whole lot of cooperation Nanghton said. Some industry segments are already trying, though. The Open Financial Exchange or line banking standard, endorsed by Microsoft Corp. and Intuit Inc. was written in SCMI and could move to XML, according to some reports. That means future developments would have to meet a much more

That will happen, and XM will emerge as an important technology, said Roy Satterth waite, an analyst at Garrner Group, Inc. sn Stamford, Conn. *People expect things tomorrow These things take time," he

If Microsoft integrates voice recognition into the next ver

Wohl said

But Conversa Web, in space of

to one application He said the school district

from Microsoft C

The Enterprise Network

development looks compared with standard HTML tooks for developing Web applications?



that use Notes

Do you plan to your Lawer 1 quitching in your network by 2000



d bit/sec. or faste auticularment for the true for

Briefs Telecommute leaves roads less traveled

> State mandates fewer auto trips to clean air

By Kim Cirard TILECOMMUTING hat the big time in Atlanta in 1996 when city officials promoted it as a way to help keep downtown workers from exacerbating

crowds and traffic during the Summer Olympic Games Now Georgia is promoting telecommuting to help with another problem: air pollution levels that could out the state in violation of the Federal Clean Air Act and place its federal road funds at risk

· Goal is to answer all

questions in one call

CANADIAN TIRE ACCEPTANCE LTD

(CTAL) in Toronto expects its call center agents to answer cus-

tomer questions quickly com-

pletely and politely. But the sys-

tems that agents used couldn't

find all the answers. So a single

customer might be transferred

to several operators before ort-

ting all his questions answered

enough to stick with the com

pany, CTAL, the financial ser

Canadian Tire Corp., is chang

ing its approach. It is using soft

ware that links its 10 call cen

ters and products so an agent

can answer questions without

transferring a call. Eventually

agents will even interact with customers via electronic mail and the internet

vices division of the \$4 billion

To keep its customers happy

By Matt Hamblen

"I really believe telecommut ing is going to get a kick in the pants this summer," said Michael Dziak, telecommuting consultant and co-founder of To reduce ozone-forming as

the Metro Atlanta Telecommon. ine Advance Council pollutants, the governor is man dating that all state department and agencies - a total of 26,000 employees, from the police department to the schools - reduce solo trips to and from work by 20% on socalled Otone Action Days be

Call center software pays off in service



lution during high-ezone days

tween May and September A state and federally funded Voluntary Ozone Action Pro gram is open to all employers statewide willing to adopt a Georgia Empronmental Protos tion Division program to reduce

CLIENT/SERVER Tool tracks

application performance

By Patrick Dryden

SOFTWARE COMING from Land mark Systems Corp shows some promise in its mission to provide a user's-eye view of how well client/server applications

The tool, called Performance Works SmartWatch promise an easy way to track the performance of any application with a Windows NT or Windows on front end. A small agent mea sures the time between the user's request and the resulting screen update, logging the in formation locally for retrieval or sending it to a central console

Beta testers said they require such capability to keep any soft ware that they mngrate from mainframes operating up to the Total manu SC

Vendors connecting Web sites to call centers:

Aspect Teler San Jose, Colf. WebLine Com WebLine Sales **Burkerton Mec** Webl ine Service Lucent Technologies, Inc. Centre Vs Winner N I MCI Communications Corp. Click'n'Connect

WhiteCap Development Corp WhiteCap 1.2 Los Angeles Santa Clare, Calif. ATET Corp.

By Laura Di Dio

Basking Ridge, N.J.

"You are always looking for a differentiator and a way to reduce customer disincentium said Mary Turner, vice president The long-assaited version of of customers services at CTAL Microsoft Corp.'s Windows NT CTAL recently packed Chor-Server that was designed to support thin clients leaves users diant Software, Inc. in Palo Alto, Calif., and MCI Systemvulnerable to the same potential house, a division of MCI Com security holes that exist in other munications Corp. in Washingversions of NT. But with the ton, to implement Chordiant's Windows Terminal Server, code-

Call ceeter, page 50

Thin-client NT increases potential hack damage accessing an application from a

ermed Moder the conce

Mudes is circular to Univ on eratine systems in that it lets multiple clients access and run the same application on a server. Though more efficient from a management standpoint, that model puts all of a company's data and applications on a server, which increases the damage potential of a security breach. *Because multiple users are single server rather than from their local hard drive (such as a PCI, internal backers have Thin-client NT. page 50

"We consider security or the lock thereof o deal-maker or -breaker." - Joe Poniatowski Standard Benister Co.

Tool tracks app performance used billing and freight-tracking

We have had to take men

CONTINUED FROM PAGE 45

requirements of the business. 'Our users expect the same performance reports for distributed applications that they recerved for mainframe applications," said Robert Stades, project manager for capacity planning and service-level

Bot when USF&G

moved software for

writing insurance poli

cres to a Unix database

with Windows clients

two years ago, "noth

ing was available that

could tell us what per

formance a user expe

nences." Stades saul

BIG IRON OPTIONS

applications he said extrapolate performance," Gmfl said. "We hope this tool can

surements at certain points and give us the ability to measure true end-to-end recoonse tume The goal is to find a common vocabulary for both business or how many packets go through a router," Stader said. PerformanceWorks Smart Watch is due to ship next month, according to officials at Landmark Systems in Atlanta. They raid it probably will cost Soo per chen

> level monitors by mea suring any change made through the Client operating system instead of focusing on a specific application or gathering diverse sta

fishes to proof server experienced by user said Steve Foote, an analyst at Hurwitz Group, Inc. in Fram angham, Mass. Other vendors that offer client-based mon stors include Project

Corp. and Luminate Software Corp., which speculizy in reporting performance by SAP R/s applications. Tools from Candle Corp. and Vital-Signs Software, Inc. currently only watch transactions acress an intranet or the World Wide

"It's only because we metalled

Memco Software, Inc.'s SeOS

security product that we can

safeguard our Unix networks

tracking all user activities

Acuna said. "But as far as I'm

oncerned, at the

data center level

we can't sel

on Windows Ni

It will differ from other Guaranty. Inc. (USF&G) in Balcraergang client/server server-

rks SmartWatch can mee

Extensive procedures report the response time for mainframe based transactions, said Philip Groff, a capacity planner at Yel-

low Technology Services, Inc. in Overland Park, Kan But Yellow Technology Serwater the information outside arm of Yellow Freight, needs to watch response time for distrib-

ows 95/NT screens

and IS groups to discuss performance, Stader said 'We have to track how well work gets done - how fast new policies get written, endorsed or canceled while agents have the customer on the phone - not how many SQL calls are made An alternative that tracks transactions

is emerging. The idea is to build hooks in to appl track and report the start and stop of each to But this Application Response Measurement

or with them because "the patient can die d

princip and manufaction should be do fication "like we do with lagacy CICS," said fits act manager for capacity planning and service to at USPEC.

t/terver transactions is more difficult, ing to crake the development and n be users self Studer seld

Call center software

cess to 10 different product lution software. This spring.

CTAL plans to start rolling it In a 1995 experiment, CTAL out to a total of Soo agents in beefed up training for agents so 10 call centers across Canada they had more information on a Once the system is in place, a range of products and could recustomer will be able to call ope duce the number of call transagent about any of CTAL's to fers credit-card and other financial But it didn't work. Turner

said. 'We hit the wall. There is a limit to how much informa tion people can put in their heads, which showed up in the number of sticky notes we'd see on some agents' screens. Some people would say. 'I can't learn

any more " she end

Call center operators often are entry-level workers who have

spent only a short time on the job, Cooperstein said. Still, they must be knowl edgeable about products and

the history of individual customers, he said. To make the upgrade to Chordiant, CTAL had to change the compensation structure for agents, paying them more for the skills and products they

know. When you put in new technology, you have to think about improvements on the people side," Turner said. Tom Gormley, another Forrester analyst, said Chordiant might charge up to \$1 million for a large call center setting, al

though CTAL wouldn't divulge Chordiant, a newcomer in call center software, gains a solid advantage over dozens of competitors in the category because of its link with MCI

Gormley said C

CONTINUED FROM PACE 49 Castomer Communications So.

products

Turner expects the new approach to save CTAL up to \$1 million per year on its call center budget, which she wouldn't

"I didn't go into this just to save money, this is about servmg customers better and keen ing them longer," she said. 'Our vision is to handle a customer's query on the first point

from internal security backs by of contact." Call center agents "really need to know the company and feel connected so that they'll answee the phone that much bet ter to create a relationship with a customer," said David Cooperstein, an analyst at Forrester Research, Inc. in Cambridge, Mass. Cooperstein said some new call center software products can help agents focus less on browsing through data and more on what to say to the

> "The agent mode to be able to say in a moment, 'Here, I see on my screen you called thu a.m. and we didn't solve your problem, so what can I do to help you?" he said. Rather than transferring a

customer to a different operator for each product, the Chordiant software will give each agent ac-

Thin-client NT poses security risk

greater opportunity to access all the corporate sewels. That includes all server-based data and applications, permissions file and registry," said Chris Klaus chief technology officer and founder of Internet Information Systems, Inc. in Atlanta, The company finds security flaws in

The Windows Terminal Server (WTS) is an extension of Windows NT which means est up, configuration and security controls are the same. Both Windows NT and WTS ship with few, if any, security mechanisms in place It is up to systems ad

trators to turn on and confinere the security mechanisms within the operating system, said John Frederiksen, Microsoft's Hydra group product manager. But unlike NT, thin-client networks require almost all data to be stored on the server, not indi-

With Hydra a backer only has to crack into the main con-

er to get immediate access to all thin-client data." Klaus said Several Hydra beta testers said they are aware of the possible security pitfalls and will proceed with caution. The whole notion of than-chent computing



does open up security concerns because the thin clients are sharing the same application and CPU functions," said Presley Acuna, director of information cystems at Salassa Global

Capital in New York Sakura Global is considering Hydra to gain fully integrated access to the Office and Back-Office suites

to keep our net morks secure Acuru sand, Sales ra Global man consider deploy ine Hydra if Memco follows through on plans to release a version of its SrOS package for Windows NT

To help guard against Hydra hacks. Microsoft has embedded a new security leckdown feature within Hydra. The so-called Hydra Remote Desktop Protocol Encryption encodes all communications between the Hydra chent and server, Frederiksen said. D

No medals.

No anthems.

No team jackets.

Just 645 million hits to the Nagano Games Official Web site.

Okay, so the IBM RS/6000 Web server did have a few fans.



IBM's award-winning' UNIX's server, the RS/6000, flawlessly powered the Nagano Games Official Web tions award-winning UNIA server, the 10,00000, instead of product site. And even set a record of its own: handling 103,629 hits in a single minute. Recently named product of the year by Jafo World', the RS/6000 has the speed, power and endurance that can help your business compete. Prices start at just \$5,000, so come visit us at



Proprietary VPN is mixed bag

▶ InfoExpress virtual private network uses its own tunneling protocols

to the Virtual TCP client and

fect Privacy option uses both of

the Description of the Control of th and Lou A. Photo

VIRTUAL PRIVATE NETWORKS (VPN) provide low-cost, remote access for telecommuters and mobile workers and secure wide area links across the Inter net among corporate facilities The number of VPNs in stalled is still small, but VPN products are shipping, and ver does are establishing interoper

abdity standards The thing that is unusual about InfoExpress, Inc.'s Info Express Virtual TCP Secure Remote VPN is that it uses proprietary rather than standard protocols for tunneling. That is a mixed blessing. Users sacrifice interoperability but get nearly all the desized virtual network features in a single product set

REHIMO THE FIREWALL

On the user end, client software forwards all communications through a gateway that estab lishes an encrypted connection across the Internet to another astewiy which not behind a 'corporate fizewall. The second galeway decrypts incoming data received over TCP. Telnet, or Secure Sockets Laver connec tions, authenticates users and controls their access to corpo-

Virtual TCP software officer features that administrators have come to expect from secure remote-access products: encryption, strong authentication and authorization.

It also has some features not always found in virtual private network software, including ses sion level data compression and VPN support for Windows Internet Naming Service (WINS) - a kind of domain name set vice for Windows - and Microsoft File Sharing (MFS). Data compression improves applica tion performance over Internet connections, and support for WINS and MFS allows users to access shared file systems over

a VPN tunnel The product can authenticate users with third-party authentication servers or through a onetime password system built in to the product's gateway server. called VSGATE. Data is encrypted using a combination of pub-

be and symmetric keys. Three privacy options are available: Passive privacy encrypts data using keys built in HOW IT WORKS

VSCLIENT connects to a local internet provider VSCLIENT encrypts authentication credentials

- and data in tunnel to VSGATE server at corporate
- VSGATE server authenticates user, applies access cantrols, forwards application dala to servers. VSGATE server encrypts data from servers before sending over tunnel back to VSCLIENT.

gateway. The stronger Active spotty documentation and re-Privacy option uses server cerplacing the winsock dll file we oficates and client key files you successfully installed the client create using the product's adfor systemwide tunneling and ministrative client. The Virtual connected to a Virtual TCP gate-TCP client uses the key file to way without customization. We validate itself to the server and automated the client to launch when needed, using a scrapt to create a new encryption key for each user session. The Perto identify gateway server and key file

configuration

those algorithms to protect Scripting also can be used to against monitoring, replay or launch dul-up networking con modification attacks. nections prior to tunneline Client software is the same for Installation and configuration aren't particularly user-friendly administration and operation The documentation is vague which raises the concern that and the administration mod users could modify admire ule's minimalist user interface istrator-supplied scripts and is unforgiving. Security admin-

PRODUCT REVIEW

▶ InfoExpress Virtual TCP Secure Remote VPN

INFOEXPRESS. INC. Los Altos, Calif (690) 969-9600

ices \$1,495 per server: \$89 per client

Pres: Multiple grapion Cons: No content filtering capabilities

istration is performed using nofrills menus and commands. but we think veteran adminis trators will adapt to this interface quickly

GOOD DOCUMENTATION

Documentation for the client was clearly designed for centralized administrators who would distribute scripts and key files to authorized users. This product doesn't provide 'muck start' install instructions for end

NO DOWNLOAD CONTROL

Security administration module - VTCP/Secure - is a reasonably fratured, stand-alon product that operates very much in a "black box" mode. were disappointed

though, that it didn't support filtering based on uniform re source locators or Multipurpose Internet Mail Extension control true, which means users and administrators can't control the types of files that users down load from World Wide Web

Because it requires server cer tificates created through the Vir tual TCP administration client the security module may be harder to deploy in organiza tions that already have a public key infrastructure or use stan dards-based proxies. But at \$1,275 for a server

and an clients, the security product is less than half the cost of its more fully featured competitors.

David M. Piccitello and Lina A. Phifer are principals at Core Competence, Inc., an Interne consulting company in Dresher Ps. They can be reached at dave@corecom.com and leagh

LAN tools use analysis to find Y2K problems

By Patrick Dryder

groups enter the final freak-out phase in their pursuit of year 2000 preparedness, they are paying more attention to the threat presented by LANs, said John Rymer, president of Upstream Consulting in Emery ville Calif. To help weed out problem

PCs before the millennoum, After a few baccups caused by sendors of hardware teefsware inventory tools are starting to compare the audit results in their databases with up-to-date information on year 2000 incompatibilities Most organizations really

have only "a cursory under standing" of what is running or their LANs, Rymer's aid. Yet is date incompatibilities in distribused hardware and software aren't cararht in time, local executson problems will not only disrupt users but also corrupt central data during interaction with servers and mainframes. he said

This problem demands a twophase approach similar to virus detection. Rymer said, "Probe to find out what you've got, then apply some kind of intelligence to help figure out what to do."

Asset management specialists such as Tangram Enterprise Solutions. Inc. in Cars. N.C., luve already focused their tools on Each unit at John-Deere & the year 2000 problem. Nov vendors of other management applications are offering ways for users to screen the data they

HANY OFFERINGS Among the offerings are the fol-

Legame PinPoint Software Corp. 17 San lose, Calif., this work will ship ClickNet Y2K. That option for ClickNet Professional LAN documentation software com-

tain View, Calif., company

the software lets users per-

form backups of data on

rollers

pares users' data with a central knowledge base via the Internet Netsuite Development in Way land Mass., last week launched

Net X Workzooo. The software checks year 2000 compliance of devices, which are logged by its namesake network documenta tion software, through searches of its own database and windo World Wide Web sites *Tally Systems Corp. in Har

over, N.H., recently integrated sts NetCrosus asset manager with IT Map 2000, a repository for compliance information and test procedures from IT-Map. Inc. in Chicago External analysis of existing

LAN inventory data "gave us a framework for handling PC compliance without having to test PCs and applications," said ClickNet Y2K beta-tester left Babcock, a systems analyst at Koontz-Wagner Electric, which builds and services electric mo tors in South Bend, Ind. Now the IS group can budget

to replace or modify PC moth erboards, know which commer cial software can be changed and what vendors to watch for undates. Rahcock said

Some other IS groups expecthat quick turnover in PC hard ware and software should purpy problems naturally and obviate the need for disrisptive audits and changes.

Co. applies sts own tools and tests for PC hardware and soft ware compliance 'before a new machine htts the desk," said Donald Manor, manager of year 2000 coordination and plan ning at the manufacturer in

Molune. III. "Generally, we roll over our machines within three years, so we expect to cover the problem as we go and avoid the time, expense and disruption." Mano

NEW

VERITAS SOFTWARE CORP. has VMS clients and serv announced NetBackup for while using NetBackup's VMS, storage backup and recentralized management and covery software for the VMS master/slave capabilities. It operating system from Digssupports VMS on Alpha and tal Equipment Corp.
According to the Moun

VAX architectures Pricing starts at \$700 feritas Software (650) 335-8000

Telecommuting results in roads less traveled

Figuring out whose sob will work hest

Georgia's Voluntary Ozone Action Program

for telecommuting and supporting those

Board said

CONTINUED FROM PAGE 49

driving and other activities on hot and humid days that meteomlogists declare high-ozone days With state government leading the

way, more corporations could also see cost savings from telecommuting and alternative work arrangements, said Frank Boyd, cor-

porate relations coordinator at Georgia Power Co. in Atlanta. Boyd started the company's telecommuting pro-

full-time telecommuters.

Dec. 4, 1997: Gov. Zell Miller endorses Voluntary Ozone Action Program by requiring all state agencies, depart-ments and state universities in certain areas to comply gram in 1991 with tougher ozone standards. Boyd said Georgia Power now reaps the cost-saving March 31, 1998: Plan due to governor detailing benefits of employing 150 policies, which are expected to cover te

xible hours, public transit, walking, changed traffic POPULARITY GROWS

A test group of 15 telecom muters saved the company \$100,000 an nually between 1993 and 1996 by reducing their need for space at the utili-

ty's corporate office by two-thirds. Boyd The Georgia Power program has been

growing ever since telecommuting are marketing, commu-

at the state's Department of Administrative Services. Of the department's 850 permanent and contract employees only 60 can now dial in to their local network

"We certainly couldn't have all of those people working remotely." he said. Among the jobs best suited to

Reap said the agency is currently working to meet a March 3s deadline to

nity relations and call center positions, deliver an ogone compliance plan. The department is examining which jobs are best for telecommuting, how often emplovees should be allowed to telecomhome workers is a big challenge, said mute and the cost and need for equiplames Reap, human resources director ment, including remote access software

second telephone lines and a new electronic mail application

To help ease state work ers' transition to telecommuting, Dziak and his alliance, called Remote Workforce Solutions, helped organize a three hour training program at a local community college The certification class will help managers train their employees, set up home

offices and decide who should tele Government must also battle taxpay ers' perceptions that absent workers aren't working, said Gil Gordon, a

Junction, N.J. "It needs to be done in a way that doesn't feed the stereotype," he said []

telecommuting analyst in Monmouth

APONET, INC. in San Jose, Calif., has announced Bandwidth-Manager Model 100 and Bandwidth Policy Monster Model 100, devices for managing Fast Ethernet (100M bit/sec.) networks

According to the company, Bandwidth-Manager lets corporate intranet managers or Internet ser vice providers allocate bandwidth

by indrodual users/customers who may have one or many IP addresses. Bandwidth Policy Monitor pro

vides data on bandwidth usage patterns to help set policies that guarantee handwidth for missioncritical applications.

Internet-based reports in Hyper test Markup Language can help

with billing and charge-back apply The Bandwidth-Manager costs

The Bandwidth Policy Monitor costs \$6.0so. (408) 436-6550



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LEADING EDGE TECHNOLOGY WITHOUT THE ATTITUDE

Se. 1

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${f Briefs}$ 26 plants under one roof

· GAF links factory reporting systems

By Crase Stedman WHEN BILL LANG became chief financial officer at GAF Materials Corp. last year, he looked out at the roofing manufacturer's 26 far-flung plants and saw -

Nothing in the __FIMANCIA way of technology REPORTING that gave him a consistent view of vital financial measurements each as production rates and labor utilization. And nothing

that let plant managers and executives at the \$1 billion company's headquarters compare the manufacturing operations.

suring production], and the plants could only look at things to their own way. I said. 'Every thing has got to get changed So lang stan dardized the way GAF's plants report their production statistics. And he led the company oo a \$2 million

The information just waso't

available at all," Lang said, "We

had a6 different ways of Imea

project to use online analytical processing (OLAP) technology to tie the reporting systems of all the plants to one another and to the corporate offices

Site, lets

users move and convert

a Web server The pro

was nonly cod

· First speech-enabled spreadsheet

SmartSuite '98 targets webmasters, intranets



By Gordon Mak Ung

LOTUS OFVELOPMENT CORP.'S SmartSuite o8 Millennium Edition gives users more intranel and Internet functionality and introduces the first speech-

enabled spreadsheet Users and analysts said they are generally pleased with the product but they aren't sure they need the new features. "My view is that we have two nu clear-powered toasters in the marketplace" with SmartSuite and Microsoft Corp's Office. said Suzanne Snygg, an analyst at Dataquest in San Jose, Calif. The new SmartSuite features have great gee-whia appeal,

Soyge said, but she isn't sure

ed success by marketing melf or the sendor that cases many about users than real Microsoft FEATURE-PACKED Lotus officials last week said

they added more than 190 fea tures to the new version of SmartSuite, which they expect will be available to tune Users said they liked some of

users will want or need them.

Snygg said the sune plays to

its strength with Notes. She also

said Lotus could see some limit

the performance improvements The big thing is that all my serious gripes about WordPro are now yone," said John Head technical director at Arteon SmartSeite, page 60

"Now I can sit here and take a look at what's going on at every plant," said Lang, who also oversees GAF's information systems department. The data at his fingertips goes all the way down to the raw materials aread in the shingles, insulation

vents and other roofing prod ucts made by GAF, he said Lang expects the system to make it easier for plant managers and purchasing and pro duction executives to analyze shift-by-shift manufacturing of Sciency costs machine down time and other array That should help GAF squeeze big savings out of the manufactur ing process. Lang expects pay back in 18 months or less

Multidimensional OI AP data bases, such as the Applix, In-TM1 software being used by GAF, areo't for everyone, said Robert Craig, an analyst at Hur witz Group, Inc. in Framing ham, Mass. Financial analysis uses have been the most fertile ground for the technology But in that large niche, users have "a tremendous pred" to inteerate data from different busy



ways lef measuring production), and the plants could only look

at thiors in their own

- Bill Lang, GAI

ness units. Crase said GAF, a tta-war-old company that keeps its plants dispersed because of the high cost of shipping shingles, began using the reporting system to January alter three months of develop

Factory floor supervisors en ter a laundry list of production

statistics into PCs at the end of GAF, page 60

SCO aims for glass house

Targets UnixWare 7.0 at high-end Unix

By Jaskumar Vijayan

UnixWare operating system -

sco, INC. is set to take another crack at the glass bouse. But breaking in may be a hard thing to do for the Santa Cruz. Calif. based vendor The company this week will ship the latest service of its

Unnware 7.0 - targeted at high-end companywide Unit applications

The new version will include enhanced reliability and scala bility, support for Java-based systems administration. im proved integration between clients and Unix server applica SCO, page 56

SCO UNIXWARE 7.0 FEATURES

- Enhanced reliability, availability and scalability
- Support for network computing Java technology-based administration, Web-top interface and access to legacy applications
- ► Universal Development Kit Single development environment for developers
- ► Customizable SCO will deliver custom-built versions for enterprise server, departmental database and application server markets

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SCO aims for glass house

tions and a Universal Development Ke that gives users a single environment for creating many applications Such capabilities were designed to en-

tice corporate customers to run large applications on SCO's Unix. But getting them to do that may be tough, analysts sand SCO's product consinues to get better

all the time, but it use't really a match for any of the big Unix versions, such as Hewlett-Packard Co.'s HP-UX, Sun Microssstems, Inc.'s Solaris and Duntal Equipment Corp.'s Utiox, said Jonathon Euroce, an analyst at Illumenata, Inc., a consultancy in Hampton, N.H. The big players are fighting for per

formance numbers in the [range of] 40,000 to 50,000 transactions per minute. SCO is touting 10,000 transac tions per manute." Eunice said. "That's very good for most midrange applications, but to compare at with HP, IBM or Sun would be ludicrous SCO's base is small Unix shops and

workgroup and departmental application areas that are natural targets for Windows NT

In the past few years, the company has tried to avoid this threat by lavening more functionality on top of its Unix of ferings. And it has tried to rally many second-tier Unix sendors behind its el forts to merge multiple flavors of Unit

into a more powerful, unified ver For instance, UnixWare 7.0 is an early erasion of a meroed 64-bit Univ that the company is developing with Compaq Computer Corp., Unssys Corp., ICL and Data General Corp. JCW. March al. In the coming months, vendors such as Unisys and ICL are expected to move completely away from their Unix kernels

In the SCO environment

WINDOWS HT ALTERNATIVE The result of such efforts is that UnixWare offers a reasonably good midrange alternative to Windows NT at terms of performance and reliability, said Rich Partridge, an analyst at D. H. Brown Associates, Inc. in Port Chester

Peter Cetinski, a sensor developer at New York-based MoneFone, Inc., said he welcomed some of the product's newer

capabilities, especially UnixWare 7.0's support for multiprocessing and its Java capabilities. MovieFone will go live with a UnixWare 7.0-based World Wide Web site later this month. Visitors to the site (www.moviclink.com) can get information meluding video clips, about movies play ing on 13,000 screens nationwide, Visi-

tors also can buy tickets at 2 oof the aters nationwide The increased scalability provided by "the support for multiple processors [ur UnixWare 7.0] was a major reason for our moving to UnitWare 7.0." Cetinski

SCO is positioned "to cover an area above what NT can cover adequately today: The company is trying awful hard to integrate the expertise and knowledge of other Unix vendoes to make an impression in the enterprise," Partridge said

"I would not rule out SCO as a prod uct that is going to be eaten alive by NT They have recognized the need to be a step ahead, and they will probably continue to do that," in terms of offering better performance and reliability than NT, he said. Cl

Candle bundles IBM middleware

By Computerworld Hong Kong

CANGLE CORP. AND TRIK IN June will burn. die IBM's MQSenes asynchronous messaging software with a package called Candle Command Center Admin Pac to faster the development of more applications based on message-queuing technology. The companies made the announcement last week

The packaging of MQSeries with Candle's POEdit. Candle Command Center for MQSeries Configuration and Candle Command Center for MOSeries will allow users to test, configure and manage MQSeries-based networks, company of ficials said. The goal is to make the prod-

acts easier to use, they said. The bundled Admin Pac won't include all the Candle Command Center functionality available now, but at least one user of MQSenes and Candle's full fledged suite agrees that MOSenes needs more to make a week.

The roiddleware included with MO is not sufficient," said Peter Lam. Hongkong Clearing's assistant director of information technology. "I think that without the [Candle] Command Center, it would be difficult to operate or moti-

Hongkong Clearing, in Hong Kong, is starting to move about 900 of the broker terminals used by the clearinghouse's participants from DOS-based 1270 ter-

minal emulation to a new architecture that uses message queuing. Lam said. MQSeries and the associated middle ware tools are intreded to allow secure

Internet commerce, application integra tion and management, and supply-chain connectivity being the message queuing layer in servers and host systems. MQSeries rachanges information be tween applications by sending data as messages. Developers using an MQ ap-

"I think that without the [Candle] Command Center, it would be difficult to operate or monitor the " metays

- Honokong Clearing's Peter Lam plication programming interface can de-

sign applications without dealing with the operating system and network Specifically, the Candle/IBM bundle hastens the configuration of an MO enntonment from a single point of control to set up channels and queues and give a solid naming standard throughout. Can-

die officials said The Pac will be included free with pur chase of MQSeries 50 and the MVS mainframe operating system. The bun dle is supported on MVS. AIX and OS/a Windows NT, Hewlett-Packard Co.'s HP UX and Sun Microsytems, Inc.'s Solans

For existing MQSenes customers, the upgrade will cost \$aso per year for distributed systems and \$10,000 per year for mainframe platforms. PQEdit is available for free download at survices dir com / D

N E W PRODUCT

INFORMATICA CORP. has announced PowerMart 4.0 and PowerCenter LO. software to build and manage data marts for distributed data warehousing. According to Informatica. Power Mart 4.0 allows data marts to be networked together and centrally managed. It also allows for meta data sharing across multiple data marts. Both products run on Unix or Win dows NT servers and work with lead ing database software as well as VSAM-based and flat-file database software. Pricing for PowerCenter Lc starts at \$225,000. PowerMart 4.0

pricing starts at \$55,000.

(800) 653-387 rmatica.com DBERON SOFTMARE, INC. has amnounced Prospero Enterprise Edition 2.0. software for integrating Enterprise Resource Planning applications with legacy applications. According to the company, the software works by extracting the underlying protocols of sales, financial and human resources applications to a visual integration program. Pricing for the visual integration environment begins at \$2,305 Application-specific interfaces, called building blocks, cost between \$25,000 and \$100,000 each.

Oberon Software (617) 494-0990



RDBMS had a good run.

Your bulletines distables sever ran work, the every per begandly recentive the dismost of bradesinguist absolutes. Receives, refer in a tage, by the case was observed to a serve and the contractive the contractive before the contractive three the contractive three three contractives are startedly asseted for complete the resource presenting. Bullet "adjace extinsions" principles that large adjaces are not desirable, asset the contractive three contractives the contractive three contractives the contractive three contractives the contractive three contractives three contractiv



Post-Ralational Database.

New Dimansions of Transactional Performance.



SmartSuite targets intranet users

Products, a software developer in Carol Stream, Ill. *Performance features that were missing, plus programmability and customizability are there. I like it to work the way I want, not the way it

wants."
The only new application in the suite helps end users convert and send Office decrement to World Wide Wide.

documents to World Wide Web servers to alleviate the load on company webmasters.

The FastSite application, previously code named Odyssey, lets users set up a corporate look and feel before sending documents in batches.

But use this homogeneous actions

But it is this hammering away at intranel and Internet capabilities that has beta user for Spencer a little taken

REASONS TO UPGRADE

Spencer, president of Toronto-bused marleter Abacus Circulation, said his small office doesn't need to publish to the

Web. Still he said, the suite seemed to polish up some applications he had problems with before. "I thought [Lotus] 1-2-3 97 was some-

what bugge," he said. Spencer has been using an older version of Lotus' spreadsheet program but may finally upgrade to SmartSuite 98 because of the stability. Sowners said he would also like easier

access to complex portions of the nute.

The Millennium Edition refers to year a 2000 compliance and conforms to spec-from a

ifications set by parent company IBM, Dates are automatically set on an 80/20 window that assumes the date is either 80 years in the past or 20 years in the

Lotus 1-2-3, celebrating its 15th anniversary, has the distriction of being the first worce-enabled spreadsheet shipped from a major suite wendor.

Using IBM's ViaVoice Gold and natural-language processing, users can dictate information into a spreadsheet set up for expense reporting by saying such phrases as "funch \$15."

Lotus officials said they worked on making the suite compatible with Office 97. They expect 100% of data and 90% of formatting will transfer between prod-

Lotus has added an option in WordPro 98 that makes menus similar to Microsoft Word or Corel Corp.'s WordPerfect. Similar help has been added to Lotus 1-2-3 for Microsoft Excel users.

GAF links 26 factory reporting systems

INTINUED FROM PAGE ST

each shift. Each plant keeps its statistics on a TMI-equipped Windows NT server, and the data is replicated weekly to a central NT hor.

About 400 users can access the various servers and read predefined reports or run queries. Lung said for example, purchasing agents can quackly track whether materials cost less in different regions. And plant managers 'can look and see why another plant is doing

something well and they're not," he said.
One of the most time-consuming parts of the development process was making the data-entry user interface simple enough for workers "who don't know a spreadsheet from a hole in the ground," said Dan Bernatchez, a consultant at Revelwood, Inc., a New York-lased reseller that butt the system. Shuft-by-shift production data broken

available before, said Mary Perigo, a controller at GAF's plant in Mount Vernon, Ind. That meant plant managers had to rely on the intuition of factory workers to detect problems that were slowing production.

ground, "aid Dan Bernatcher, a consultant at Revelwood, Inc., a New Yorkbased reselter that built the system.
Shill-by-shift production data broken
down to the machine level simply wasn't
are down to the machine level simply wasn't



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Briefs Your face is your ticket

horder crossing

By Barb Cole-Gomobile OTAY MESA, CALL

SOON, THE WAY YOU look or the sound of your voice could be the factor deciding whether you can enter the U.S. from Mexico. No. the U.S. isn't planning radical changes in its immigra-tion policy. The federal Immigration and Naturalization Serrice (INS) is consid technology that can identify frequent border crossers by matching images of their faces or

snippets of their voices to samples they supply when applying to use the system. The INS is testing the technology for possible inclusion in its existing Secure Electronic Network for Travelers' Rapid Inspection program. The program was designed to speed the

cross-border commute of workers at companies that have facilities in the U.S. and Mexico. There are more than 1,300

such companies - called Maquiladoras - along the border, said Sally Carillo, an INS supervisory immigration

The two dedicated commuter lanes the peogram maintains at

Storage management all the rage at Share

▶ IBM's ADSM software shines at conference

By Nancy Dillon

STORAGE MANAGEMENT Was a hot subject at IBM's recent Share, Inc. user conference in Ansheim Calif

More than 50 technical sessions focused on the issue, with topics ranging from disaster recovery to capacity planning, and IBM's AdStar Distributed Storage Manager (ADSM) often took center stage. ADSM software automates backup, restore and archiving of data residing on more than 30 different client

operating systems. The server software runs on Windows NT

or Unix servers as well as on IBM midraner and mainframe Much of the ADSM buzz centered on new World Wide Web-based management soft-ware that will allow users to consolidate administration of distributed ADSM servers into

Referred to as the ADSM Enterprise Administration Console, the software is due in the Storage management, page 64



- Joseph Hildebrand.

systems programmer

PORTABLES

Users mourn Newton

By Kim Girani

sounning our last week in chat rooms and corporate offices users said they are disappointed with Apple Computer, Inc.'s decision to ditch its Newton devices for a new line of Mac OSfriendly handbelds. The future of the Newton

OS had been an ongoing source speculation The division was unprof

off as a sub sidiary last Mar and then brought back into Apple in September. But

described users were nonetheless surprised by the Feb. 27 announcement

"We didn't know it was coming," said Steve LoRicco, interim technology manager at the Largo, Fla., police department The department last year in-Newton, page 64

"It used to be that if we had an appointment that involved crossing the border, we Border cressing, page 64 · Support is the biggest concern

south of San Diego serve about

1,000 border crossers per day.

said Bruce Ward, assistant area

500,000 vehicles cross the Mes-

ico/U.S. border at Otay Mesa.

And for drivers who can't use

the dedicated lanes, it can take

two hours to cross the border

that ever happened," said Jos

Matters, an executive at Electri

cord, an electronics company in

Tipuana, Mexico, that also has

offices near Otay Mesa. Mattera

has crossed the border five or

six times per week for the past

"The lanes are the best thing

port director.

during rush hour

to years.

Can NCs save you money?

NETWORK COMPUTERS are saving users money over regular PCs when deployed in specific situstions, a new study has found. If installed in areas where

there is a limited need for computing power on a user's desktop, if THIN-CLIENT a network band. COMPUTING Group concluded width is plentiful, and if pro-

ductivity applications such as spreadsheets aren't key to end users' jobs, then network com puters make sense in terms of cost of ownership, according to that require local processing a study from Meta Group, Inc.

The study also found that users were less concerned with the cost of desktop hardware than with the cost of supporting, managing and maintaining st

But the study didn't compictely rout the PC model. that the managed PC environment is better in situations where end users are involved in collaborative computing and have varied application needs





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Border crossing

CONTINUED FROM PAGE 61 would have to one ourselves two hours to get there." Mattera said. Now he allows about to "I think (the lanes have)

helped draw companies to this region," Ward said. The lanes have been in place since No vember 1995

To use the new lanes, applo cants pay a \$120 yearly fee and undergo an extensive background check, which includes running their fingerprints through criminal databases at the Federal Bureau of Investigation and other law enforcement 29EBCPS

"We're basically taking out the good people and must and the INS name to health dedicated lanes at four other putting them in their own sites in the Southwest

[commuter] lane." - Bruce Ward, assistant

area port director. Otay Mesa

The background check helps screen out applicants with a criminal fustory - those most likely to smuggle drugs or other contraband - and gives others quicker access to the

"We're basically taking out the good people and putting them in their own lane." Ware

When a user approaches the border crossing, the system scans the driver's license plate and identifies the car using a transponder installed by the INS. As the car approaches the booth, border guards see the commuter's file photo and read citizenship information on a terminal in the boots

RE INSPECTIONS But even after the background check, commuter lane drawers don't get a free ride. INS offs cials said they perform almost

twice as many secondary in spections - physical inspections of a vehicle by humans and does - on those dravers cars than on other why les An even busier port of entr San Yadro, Calif., will get a dedicated commuter lane in Au-

However, the lanes weren't an easy sell among securey-conscious border guards. Doubters within INS dubbed them the Drug Courier Lanes before the background acreening proved successful at weeding out most of the bad apples. "A lot of pro-

ple were totally against it" Ward If image and voice-ercorntion technology proves out, it could speed things up even

more for commuters The goal is to design a sys tem that would identify them without having them stop at all (at the border crossing)." said Curt Worley, an immigra ion inspectos. It also would belo the INS to better identify the person behind the wheel

Can network computers really save you money?

he said IT

CONTINUED FROM PAGE 61 The conclusions come from a survey of 50 of the world's largest corporations that had installed network computers or were examining them closely Meta Group said.

The study results didn't surprise

users, including Paul Tiniurello, senior vice president at A. M. Best Co., a retailer based in Old

*Even though the cost of desktop equipment has been failing steadily, the cost of ourbuyers, customers may not be saving on the most expensive part of the purchase. TinnireBo said. The study concluded that network computer users save as much as 25% when compared with their desktop counterparts in a broical, unmanaged PC ennmonment C

porting and managing it really

haso't," Timmrello said. He said

A. M. Best is considering buy-

some business operations

Hildebrand said his data pro cessing center plans to smale ment Tivoli Systems, Inc.'s En-(GEMS), the software provides a

ing network computers for So while PC makers hawk sub-\$1.000 machines to attract

enterprise Web console will in-

Users grieve Newton's demise

stalled 12 EMates and five Mes-

sagePads in cruisers. It chose the Newton handhelds because of its reliable, mature operating

The news sets us back a bet It creates more work for us in that we now need to research the next best platform," LoRocco Apple said it plans to halt for

ther development of the 7-year old Newton operating system and hardware - the EMate 300 and MessagePad 2100 - and instead introduce Mac OS-based handhelds next year. The company plans to sell off existing Newton devices and instead d vote resources to building appli-

That's had news for PC users who liked using Newton's independent operating system. which is both PC and Macintosh-friendly. Users can syn chronize data from a Newton OS device with applications on

a Macintosh or a PC using a Newton Connection Utility "The news! came as a bu surprise, although through the grapevine. I heard rumblings for months," said Mark Rollins. an environmental manager at Thermo Flectron in Waltham Mass., who plans to use his MessagePad 2100 for the next

two or there wars for auditing But Rollins said a Mac OS handheld holds promise - par ticularly the idea of a Macintosi palmtop with 48M bytes of the Mac OS bandheld RAM, a 150-MHz processor and a color screen that costs less than \$1,000, he said.

NO SUBSTITUTE cations for its Macintosh user While some users said they will

now switch to a Windows CE device, other Newton owners at gue it will be years before new PalmPC handhelds, based on Microsoft Corp.'s Windows CE operatiog system, can match the performance of the more mature Newton OS. PalmPC's

are scheduled for release later this month (CW, Feb. 24). Despite the Newton's power ful processor, instant-on capa-

bilines and battery life based on consumer AA batteries, the devices have problems synchronizing with Macintosh desk toes. The Newton OS required a separate, costly Apple engineering team to develop its an plications. Apple officials said the company plans to retain to Newton engineers to work on

> Observers also worried that Apple, the handheld industry or onest will get clobbesed when re-entering a saturated palmtop market next year.

"Come 1999, when they re lease their Mac OS device, it will be too late for them to earn market share," said Glen Engel Cox, an information technology employee at a Richland, Wash based environmental company He replaced a \$1 ooo notebool with a MessagePad 2000. II

Storage management all the rage at Share CONTINUED FROM PAGE 61

they are on the campu

fourth marter Also important to users was the announcement that Version

3 of ADSM - which already supports most Windows and Univellents in addition to New ell. Inc.'s NetWare -- will gain support by March 27 for clients from Cupertino, Calif-based Apple Computer, Inc. and Sargu Cruz, Calif-based SCO, Inc. and Unix clients from Dayton. Ohso-based NCR Corp. and

The buggest problem for larger shops is centrally managing distributed clients," said Joseph Hildebrand, an operating systems programmer at a large MVS installation at a Virgross-based bank to IBM's planned product.

terprise Console to help create a single global view of distributed single source for statistics of servers running Legato's Net-ADSM servers spread across Worker backup software. GEMS the bank's 12 branches. He said 1.1 was appounced Feb. 24 and the single source will bele can run on Windows NT and streamline the complexity of Sun Microsystems, Inc.'s Sobacking up and analyzing stor laris servers. Pricing starts at 'R sounds like this (ADSM) and two managed nodes.

Analysts said centralized stor corporate this capability and are management consoles such could also do the job for us." as those from IBM and Legato Hildebrand said offer clear benefits to ports

Another ADSM user at Stan The most significant portion

ford University said his site is of storage costs lies in manage movine to Web-harred interfaces ment." said Anders Lofgren, an whenever possible because of analyst at Giga Information the prevalence of browsers Group in Cambridge, Mass. "If among users. Using a Web users can take multiple discrete browser, administrators and management systems and move help desk personnel could perthem into a single overarching form functions on any ADSM scheme, they can likely decrease client or server from wherever staff and hit a major cost crm

Lofgren said although Web "When we have the bullet and begin to back up all 10,000 based consoles make sense be marketations across our comcause of the ubiquity of Web pus, we will want unified Web browsers, centralized storage based administration," said management software doesn't Richard Levitt, computer syshave to be Web- or Java-based to terns specialist at Stanford meet user needs. Hewlett Packard Co.'s new OpeoView Legato Systems, Inc. in Palo Al to, Calif., already has Web-based OmniBack II 1.0 backup soft management software similar ware announced last week in one example, he said. Called Global Enterprise Management of Storage

OmniBack has a graphical user interface-based Enterprise Backup Console for managing distributed backup environ ments. The interface can be accessed using any Unix. NT or Windows 95 system within a oetwork or via an optional Web anaday ... The new version costs \$999

\$1.000 for the GEMS console for NT and \$3,900 for Unix. It includes features to help large information technology depart ments create chargeback mod els for backup and recovery service agreements with dutrib uted company departments. D

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Data Warehousing

Special Section: Date Mieleg . Decisios Sapport : Strategies

How big is the budget for our data warehouse



$\operatorname{\underline{Briefs}}$ Company builds warehouse ... again

By Linda Wilson

VIX. CORP. spent more than two years building and enhancing a data warehouse. Now the com-

pany plans to start over That's because Vtel, based in Austin, Texas, plans to convert from its current array of com puter systems to Oracle Com's Applications, an integrated busi ness system that includes a warehouse. The larger move was prompted by last year's merger of Vtel and Compression Labs. Inc. in San Jose Calif., and the fact that both

companies had outgrown many of their operational systems "In 1989, we were doing \$2 million a year [in sales]; now we are doing \$200 million," ex plained Rodney Bond, Vtel's chief financial officer. "We are looking at massive future growth, and this system is crib

OUT WITH THE OLD Once Vtel decided to go with

Oracle Applications, the compa ny scrapped plans to upgrade its current warehouse, which occupied 10G bytes of an Oracle relational database residing on a SPARC 20 server from Sun Mi-



Vitel CIO Steve Cox and CFO Red ney Bond (pictured on the screen) say the Oracle to use the company is adopting will help them look at data in di

Vtel will use the warehouse that comes with its new inte-

grated applications suite "Our intention is to take the lessons from the current data warehouse as we move for ward," said Steve Cox, vice president and chief information of ficer at Vtel, which makes digi-

systems that run over an IP net provide statistics. work. The most important lesson,

Cox said, is the value of a warehouse and analytic tools to the business. The warehouse has helped us understand our business. It has enabled us to ana lyre the profitability of the busi

tal. multimedia conferencing ness." he said. Cox declined to Bond explained, "A regional

sales director can come in on a daily basis and say, 'Here are the sales that occurred in my area,' instead of waiting for a report to come out of finance."

Cox added that he expects Warehouse, page 72

Automated analysis Vendors give reporting products analytical lift

By Craig Stedman

REPORTING SOFTWARE doesn't boast the same technical aura as heavy-duty data analysis tools But vendoes are starting to add more analytical heft to their re-

ing easy to use, report-building and TOOLS last month released
a Java-based browser viewing products are gaining ' tool that does multidimen more sophisticated functionality that is meant to turn them into more well-rounded tools for

business managers and other For example, Wilmington Mass-based Datawatch Corp. last week shipped server soft ware that centrally stores reports generated by production

systems and distributes them to users of its Monarch deskton tool. Companion software that connects the repository to World Wide Web bowsers running a Monarch plug-in is due by midness Sqribe Technologies in Men

In addition to beanalysis and works with its flacship reporting software. Seag Technology. Inc. in Scotts Valley Calif., added similar analysis capubilities to its Crystal Info reporting tool in December.

For Mike Muterspaw, applica ions manager at Gaston Memo rial Hospital in Gastonia, N.C. Analysis, page 72

ness rules embedded within data. Before you start you need to know what to expect and how many mops and buckets you'll First, consider some facts

ing. It includes

discovering bus

data scrubbing and

About 75% of the time spent on data warehouse/data mart projects is spent on back-end issues. Expect data cleansis to absorb nearly half of that

COMMENTARY

Rules for data cleansing

ATA CLEANSING is one time. Your end users won't believe this estimate, and neiparts of data warehous- ther will your staff, because only those who have been

through data cleansing can appreciate the level of detail involved Often, companies underestimate the time and effort re-

quired by a factor of four or more But you have to clean the data. Otherwise,

when raw data is aggregate distilled and summarized for use in the data warehouse, the

Bota cleansing, page 72

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The Business of Better Decision Making



Analysis functions added to tools

Datawatch's new Monarch/ES staging and distribution software looks to be just what the doctor ordered for getting mainframe-generated financial reports to users.

Gaston Memorial has made some use of the stand-alone Monarch desktop tool, but end users had to know where to look for reports on the main frame, Muterspaw said. Most of the numerous reports that come off the hospital's time-shared system stall are printed out or

stored on mscrofiche, he said. Monarch/FS "changes the rules a little bit and makes it easier to spread things around " Muterspaw said. He has tested the repository software for the past three months and is seek. ing management approval to in stall it in the 400-bed bosostal's accounting and payroll offices

Eventually, Monarch/ES could be used to funnel financial reports to is remote doctor's of fices owned by Gaston Memory al's parent company. Muterspaw saud. Hard-copy reports are delivered dath to each office now "But it's tough to pull a few pieces of information out of a big stack of paper," he said

FRUITFUL ENDEAVOR Citrus World, Inc., a \$500 mil

hon citrus cooperative in Lake Wales, Fla., bought a 35-user Monarch/ES license to support development of data mart-like holding tanks for reports that used to be printed. The software has eliminated a lot of has sles," said Gary Dewitt, director of management information systems at Citrus World

Unlike Monarch/ES, which the Siemens unit's Santa Clara. takes ASCII report files directly Calif., lab. Much of the analysis

> of data. Also, look at usage Watch out for users who say a should help ensure data clean liness by working side-by-side

The first symptom of dirty data is a pattern of unconsisten data. You may notice that the same customers are listed under a dozen different spellines or abbreviations Data elements

from production systems, reporting products such as Sombe's can be used to create customized reports from data warehouses or multiple applications. The new PowerSambs tool adds the ability to do full fledged multidimensional data

analysis from a Web browser Siemens Business Commun cations Systems, Inc., a unit of Surmens AG that makes tele communications equipment for private networks, is starting to deploy PowerSqribe to track and analyze software defects during

product development PowerSqribe is expected to re place a homegrown system than ts essentially just a log for informution on defects and fines, said Al Reinig, manager of software tool development at

THE WORD ON NEW REPORTING TOOLS

Datawatch's Monarch/ES:

Requirements: Windows NT servers

Cest: \$200,000 for 10 concurrent users; \$75,000 for 50 **Availability: Now**

Sqribe's PowerSqribe:

Requirements: Java-enabled Web browsers

Cost: 599 per user

Availability: Now " Serior's ReportMart report distribution software costs \$15,000 per serve

work has to be done manually training session," he said. Reporting and analysis tools Automating the analysis "are really starting to merge to should speed up the process of gether," said Robert Craig, a getting reports on the cause of data warehousing analysi at code defects out to 2,000 users worldwide. Reinig said. And training doesn't look like a big

ussue. "We have a dozen differ

ent sites, but I think we can put

[PowerSqribé] out without hav-

ing to put everyone through a

Hurwitz Group, Inc. to Fram. incham Mass And end users who until now could only read reports "are get-

ting hungry for the ability to since and dice the data " he added. [] conversion and migration. An automated software tool can ex

tract mapping rules from actu-

the bours it would take to do it

al data in minutes, instead of

Let's do a rough estimate. It

Atre: Rules for data cleansing

cies will distort and corrupt the summary views in ways that are tough to trace or correct. And don't forget that politics will play a role. Departments will disagree on who owns the data and who should clean it. Don't be surprised if a manager says. I own the data, but everybody else should clean it."

Analyze the situation, then choose your battles. Here are some other rules

You probably can't clean all

all because not all of it needs to be in the warehouse. Twenty percent of the data may meet 80% of the essential needs · Cleanse only those portions of data that have real husiness value. Business analysts should be primarily responsible for determining the business value

the data; there's too much of it chunk of data is essential but is But you won't need to clean it never even looked at. The users with IS

may have different names in different systems. Or the same name may be used for different data elements When you clean legacy data

don't put the clean data back into the source system. Legacy systems are often delicate, and fixing" their data may break the old system. Put the clean data in the warehouse · Data cleaning can involve re empineering legacy data. If you

could take three to five hours to analyze one data element manually. Using an automated record deal with more those a small amount of legacy data, you would be wise to consider automated software tools for

tool, an experienced data analyst would need about 15 minutes per data element to complete data mapping. For 1,000 data elemen manual analysis might take

WHAT IT COSTS

about 4.000 hours. At a rate of \$75 per hour, that would cost about \$100,000. Automat ed analysis might take 500 hours of staff time, or about \$17,000, plus the cost of the

When cleansing data you face a classic 15 dilemma: No. body will love you for doing it. but everyone will bate you if you don't do it. Your bigges challenge in transformation egy that began when Cox was and transportation of data won't be technical. It will be to find people who know the busy ness processes that the data reflects. Without this expertise. you're searching haystacks without knowing what a needle

> Atre is president of Atre Group. Inc., a consulting firm in Port Chester, N.Y., that specializes in data warehousing and database sechnology. Her E-mail address is shakwihatre.com

looks like to

Company builds data warehouse ... again

CONTINUED FROM PAGE 42

business users will like the new reporting tools better than the custom-built tool they currently use. The Oracle tools will allow them to look at the data orea nized in many ways such as pur charts and bur graphs. The cur rent tool presents information only in ends

Vtel plans to migrate to the entire Oracle suite in August To facilitate that aggressive schedule, it plans to limit customization of the data ware house and exclude legacy data from it. The current warehouse will become a read-only archive Building a warehouse from scratch is more time-consuming and expensive than installing a suite of applications replete with data warehousing func-

We want the IS staff to put their energy into belging the business users understand how to use the technology - not writing code," Con said. "We think there is more business

value in that Vtel will purchase any enhancements from Oracle, and initial customization will be minimal. "One of our rules is: no customization for 13 months," Bond said.

Even though the current warehouse resides on an Oracle relational database, Vtel 15 cast ing it aside to avoid maintain. ing two systems, according to Cox and Bond. In addition, the new warehouse will include more types of information It will add data on customer service or international operations.

for example, to current stems such as sales, marketing and fi nancial data The new warehouse meludes software routines that extract

and transform data from Varia relational transaction database and move it to the warehouse, a multidimensional Express Serv er database. Users will use Discover, a query and reporting tool, as well as tools from the Express product line, to get at the data. Servers will probably

be from Sun And in a strategic shift, Vtel plans to maintain the new warehouse itself. Previously, it outsourced development and maintenance to Database Consultants, lec. in Dallas, Data base Consultants will still work with Viel and Oracle's consult-

ing operation to get the new warehouse up and running. Vtel doesn't have any com plainty about Database Consul tants' database administration It simply feels that the merged company is large enough to support in-house talent. Road said. That's part of a larger push to increase the size and competence of the information technology department, a strat

hared in June 1996 Of course, the switch to an integrated, packaged environment will entail a huge culture change. That may be the most difficult part. The challenge is always to satisfy everyone's requirements in the least painful way in terms of creating something you can actually support,"

Wilson is a fredence striter in

Cot said D Glen Filter III



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Will the chain

Up and down the supply chain, year 2000 compliance is off to a dismal start



BY KATHLEEN MELYMUKA

ALL YOUR YEAR 2000 REMEDIATION IS DONE AND TESTED. Then January 2000 comes, and you're out of business. Why? Because your suppliers screwed up

Your retail shelves will be empty; your assembly line will have nothing to assemble; your emergency room will lack lifesaving Amiras

Everyone is praying that suppliers get religion on time, but there's little basis for that hope. "The vendor issue is the biggest risk issue and the biggest litigation risk issue and the issue people have least control over," says Lou Marcoccio, year 2000 research director at Gartner Group, Inc. in Stamford, Conn. "And yet it's where people are focusing the least amount of attention. it makes no sense whatsoever."

"The supply chain is really one of the weakest areas in war 2000," says Stephanie Moore, a senior analyst at Giga Information Group in Westport, Conn. "We can expect to see many, many, many suppliers fail."

This isn't an IS problem; it's a company problem, and top ex ecutives have to take the lead. CEOs and purchasing executives have to take the same message to their suppliers that CIOs once took to them: Year 2000 is a deadline that won't move, and fail ure to comply will put you out of business. Experience so far indicates that the message isn't getting

through. "I don't want to be too pessimistic, but there are a lot of captains of the supplier community who are saying, 'Full speed ahead. If we just graze the iceberg, it will be OK," says J. Ferron, the partner in charge of the Detroit-based Global Automotive Practice at Coopers & Lybrand LLP.

Here are snapshots of what's happening, and not happening. in three major industries: automotive, health care and retail.

THE AUTO INDUSTRY: ON A COLLISION COURSE

No industry illustrates the domino effect of year according to better than the automotive industry, where suppliers and subsuppliers down the line are all interdependent and where there are many solesource vendors. "It's all winyou no losse/loss, says James W. Lloyd, vice president for information and network resources at UT Automotive. Inc., a Deathorn, Mich. supplier of a broad range

of auto parts.

The Big Three U.S. automakers — General Moors Corp. Ford Moors Co. and Chayler Corp.

- have handed suggester through the Automotive Industry Action Group (AIAG) to keep the supply chain from breaking. Late last summer. the trade association's Year 2000 Talk Force maided as comprehensive year 2000 Talk Force maided as comprehensive year 2000 Talk Force maided over the signature of the Big Three's purchasing over the signature of the Big Three's purchasing over the signature of the Big Three's purchasing

executives.
Suppliers were asked to complete the assessment and use the format as a tool for their own suppliers. Completed assessments will be posted on confidential online databases accessible only to the flig. Three. Suppliers can update their responses as their year aboon compliance programs progress, keeping their customers up to date.

progress. Recepting their customers up to date.

The effort gets high marks from suppliers for simplifying communications with their customers. "It's termendously helpful to come up with just one set of answers, "Lloyd says.

with just one set of answers. Lioyd says. But evidently, that isn't enough. The AlAG, in Southfield, Mich., won't say how many assessments have been returned, but the response has been disappointing. The year aoon issue is being underestinated in importance by many suppliers, says Ferron, a lead consultant on the AlAG's year aloon project.

Andits show that suppliers that have responded have vastly overestimated their own preparedness. In every instance, there were potential scrous, even business-threatening, surprises.*
Ferron says.

retron says.

None of the Big Three would say what they'll do if the effort fash to gain momentum in time. Instead, they are bringing in European and Japunese automakers to broaden the initiative. They hope that critical mass will force suppliers to respond, says loe Boone, lead Deboitte Consulting

partner on the AIAG unitative. "The pressure is going to get so great they're going to have to get movine on this." he says

HEALTH CARE:

CRITICAL CONDITION
In the health care industry, supply-chain issues are harely in the year 2000 map. The industry traditionally has lagged in information technology, and there apparently is no vehicle for year 2000 coordination. "My jother; clients are trying to make suppliers get into line." says Diana McKenzie. a partner at Gordon & Glickson, a

technology law firm in Chicago with a substantial health care practice. "Health care isn't that far in the process. They're still in the analysis stage. They are really late."

In a life-and-death industry, supply-chain prob-

lems take on added drama. "If you're doing surgery and need a pint of blood, you can't want another day," McKenzie says. "This gives real time an entirely new meaning."
"We're a little behind the cight ball," acknowledges Debra Speight, vice president and chief in-

formation officer at Harvard Pilgrim Health Care in Brookline. Mass... Northeastern health mainlenance organization with 1.a million members. But in its industry. Harvard Pilgrim appears to be ahead. Now in the remediation stage of its own year acoop preparedness, it is also grappling single-handedly with supply-chain issues.

A break in supplies in something clinics always anticipate as part of normal contingency planning. Speath says. But she recently identified 1,500 kinds of medical supplies that might not work in Jianuary acoo because of embedded chips. Mary, such as intravenous drips, aren't commonly associated with technology.

Speight says that she only recently became aware of the danger the supply chain poses. "We assumed suppliers were looking at this as something they had to succeed in or go out of business," she says.

That changed when a survey indicated that conthird of doctors believed patients will be at rask because of noncompliant medical devoca. When we saw clinicians express concern, we said, "We'd better get on top of this," "Speight says. As a result, she is drafting a letter that asks all

whether they expect to be compliant in time. If a supplier doesn't respond or appears to be at risk, she will identify a backup supplier. That shouldn't be difficult, she says, because there are no sole sources for any of the supplies.

sources for any of the supplies.

Alternative sources give Speright the upper hand. "I'm confident we'll get there," she says "Our suppliers are the ones at risk. If they are not compliant, year aboo will come and go. We'll still be here, and we will have a different jand compli-

RETAIL: HOPE IN STORE

ant) supplier."

Dennin Grummer's massion is to keep the shelves full at Sears, Roebuck and Co. in January 2000, and he aims to achieve it. Grummer, director of the Century Compiliance Project Office at the Hoffman Kintset, Ill., retailer, heads a comprehensive, independent Sears sinsistive that eusentually tells supplies to get compilant or else.

tially tells suppliers to get compliant or e/ec. The effort is focused on 1.600 overdoor selectified as mission-critical by Sears business units. They received a four-page year acoos survey in January signed by Dave Gioments, vice president of vendor relations. The survey had a February deadline, and as the dradiline neared late last month, about 20% of the vendors had responded, and Grummer was planning to begin follow-

Meanwhile, a sample of respondents, and all those whose responses are suspect, will be asked to document their plans. "If we feel uncomfortoble with any relationship, we may go to the site for werification." Grummer says.

Problem suppliers will be remanded to the care of the Sears manager who maintains the sendor relationship. If the manager isn't austicated that the supplier will be compliant in time, he'll pursue alternate sources. 'If they value the business relationship, they will cooperate,' Grummer save.

The Sears initiative is a giant step shead of the retail industry at large, which, as a group, is addressing only the electronic data interchange (EDI) link in the year 2000 supply chain. But EDI is an important link. Last year, [C Penney Co. alone exchanged more than 125 million EDI messages with its suppliers. EDI glishers could cause ordering systems to ship the wrong products or Chain, note to

be unbroken?



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GET IN THEIR FACES

though 94% of all companies are communicating with pilers through paper surveys, that doesn't work, says Lou coccle, year 2000 research director at Cartner Group.

Most suppl lers don't have enough information to ans the surveys, so they throw them away, Marcoccio says. Other sess. As a result, only 20% of surveys are making their way back to companies, and only 1% of those are accurate

The right strategy is to first identify your mission-critical suppliers by prioritizing the potential impacts of their failure to

For example:

TOP-PRIORITY suppliers could shut down the whole company or cases a major lessed to an individual.

SECOND-PRIORITY suppliers could shut down a major por-

tion of the company.

THIRD: could cause significant revenue loss. POURTH: could bring big-dollar litigation risks.
 PIFTH: could cause the company to lose a subset of

SIXTH: could cause significant delays in service to

Having identified the mission-critical suppliers, here's what was de Hold a face-to-face sudit with the vendor. Core people should include an auditor and a program manager from you year 2000 learn and a lead engineer and company executive from the supplier.

2. Tell them your concarns. If their failure to be cor can shut down your entire company, lay it on the line.

Discuss in detail exactly what they have and haven't done toward compliance, which systems have and haven't been certified and the litelihood that they will be so that you

4. Hold an audit meeting every quarter

can determine the risks.

Marcaccio estimates that it takes five to so people per soo vendors to get this done. "But how also can you assess their risk?" he says. "If you're not deling sudds with those vendors, you're not deling due dilligence and you're liable. If you have to hire goo people, their's what it takes." — Kathleen Melymuke.

quantities or to throw out orders. altogether. Because most retail is seasonal, a disruption of even a week or two means the selling window is lost, and the margin at IC Penney. can never be recovered

To head that off, 40 of the country's biggest retailers are working under the umbrella of the National Retail Federation (NRF) in Washington to set up a mechanism for testing retail EDI

The start date for testing, which already has been postponed twice was still uncertain late last month. pending contract agreements with the value-added networks that are to administer the tests. Businesses that pass the test will be listed on an NRF World Wide Web site so retailers can see nior editor, management.

which of their suppliers are EDIcompliant. "It will keep us from all going crazy trying to test with each other," says Dave Evans, C10 Evans ian't yet sure what he'll

do about suppliers that don't pass the test. "I don't think we've gotten to that point in our thought process," he says.

But Cathy Hotka, vice president of information technology at the NRF, stresses that EDI testing is only a first step in addressing supply-chain issues. 'We're trying to show them that the software fairy will not come in the night." she says. "If you're waiting for her, you're wasting your time." []

Melymuka is Computerworld's se-

OREBOA



The government challenge

John A. Koskinen takes of-fice today as the federal go nt's year 2000 czar. igh conversion of the ral systems is enough o a challenge for him to oversee, there's also the issue of sating those systems with those of state and local The President's Council

on the Year 2000 Com sion, which Koskinen will lead, "is a unique opportun ty for [Koskinen] to step up to the challenge and clear the path" for any state/ federal coordination, says Kathy Rosmond, one of two year 2000 project manag at the state of Washington's et of infe

The federal gove shares with the states muc crucial data, such as info ation on taxes, welfare and crime.

indeed, members of Con press and Washingtonatchers have been look to the White House for lead ership on the millennium sue. Rep. Consie Morella (R-Md.) sees the council ership as a "bully pul it" on year 2000. State overnment leaders also cited the need for executive leadership following a year 2000 summit with federal icials last October in abungh that focused on

ral/state data interface "If the problem is not adessed properly, the picture inted by analysts is bleak, cially for government dee said after the sun We're talking about every-king from minor inconvences to jeopardizing pui lic safets. This is no small

ers." — Rick Sain

On the bright side Although the U.S. has a long way to go toward year ince, we're in

great shape compared with the rest of the world, according to Gartner Group, Inc.'s Compare Scale, which looked at the compliance picture around the world

. Out in front: U.S., Aus-· 3 me the behind: Cana the U.K., Israel · 6 months behind: Souti Africa, Japan . 6 to 8 months bob

rest of Western Europe * 8 to 12 months behind: rest of Middle East, Mexico India, Eastern Europe . 12 to 14 months bot

Argentina, Venezuela, Cen-tral Africa + 16 to 24 months bobbs China, Malaysia, Thailand, the Philippines, South Ko-rea, Taiwan, Brazil, Russia

Those &±%A@ tools!

Most information techno not fair to do so." gy directors and managers aren't satisfied with the yea Y2K a yawner 2000 tools they have to ork with, according to a Rubin's survey also fo ember survey of 108 that year 2000 work isn't directors and project man agers conducted by Howa A. Rubin, chairman of the exactly a scintillating

department of compa nces at Hunter College in New York and president of Howard Rubin As In Pound Ridge, N.Y



But the apparent wide spread dissatisfaction or an one or more of the following things, accord to author, Computerwork columnist and software relapment expert Ed

. Some tools were ow hyped and oversold.

• Some people naively e pected a silver bullet. · Some people were frus trated because their legacy

code le written in language which there are no Some people found that the tool had bugs, wasa't properly documented or h various other "traditional" and or had Some people found that the tool did exactly what it

was advertised to do, and though they realize they though they resize they have no right to expect a sliver builet, they're "frustrated and arcdous about the scop and complexity of the problem they face — so they're venting their frustration on the tool as an emotional reaction, even though they re-alize intellectually that it's



WE'RE ON THE ROAD TO OVERLOAD



nformation systems infrastructures are close to collapsing through complexity.

They're like airports in international business hubs such as New York, Frankfurt or Tokyo. which were never designed to

tops, networked multimedia, electronic

and wireless communications on his

staff's ability to keep up with demands

put in place an entirely new infra

tear down JFK and start again, but that

isn't practical. Neither is tearing down

the 15 infrastructure. Legacy systems get

passed on from one generation of

business, technology and applications

That said, surely it's time to start

thinking ahead about the target architec-

ture for 15 and then to choose the tool-

that maximize the chance of being able

to break away from the current legacy/

necessary principles for defining next

generation infrastructures. They must

■Be designed from the customer back

to the company and not be based on dis-

tributing capabilities from the company

out to the customer as is currently done

That probably means that the lowest

heritage design constraints

meet the following criteria

Here's my own assess:

nerce, intranets/extranets, agents

handle today's air traffic volume, air traffic control complexities, security requirements or packing needs. As a result, they're now in a constant state of frenzied renovation. They are, alas,

legacy infrastructures That's also true of just about every large organization's IT resources. We're living with enterprise technology plat-

forms that are an ever-more-complicated lashing together of designs, devices, standards, servers, operating systems. database management systems, legacy systems and application packages As with airports, companies will have to live with much of that heritage for an unknown period. They will add on and patch in new components. They will grab any tool, such as Internet technology for creating intranets, that reduces incomnatibility and integration But at some stage, the sheer complex-

ity of the 1S technology base will overload the IS management and skills born. Already, from the perspective of most users, we're gaining only marginal improvements in value from new IT tools. relative to their growing costs, dependence on overburdened support functions, administrative procedures, breakdowns and unreliability

moany told me a few weeks ago that muzes the customer base. (Yes, that does all the talk about 1S strategy is a facade. mean giving up a lot of features such as His entire focus is on keeping the near Virtual Reality Modeling Language and ly 100,000 desktops in his company up much of multimedia for the time being.) and running. He's barely able to do that Ensure complete simplicity at the custoday, and he dreads the impact of laptomer end. That simplicity must encom-

pass everything: learning, troubleshoo ing, installation and access to support. Windows os and the hardware/software industry that has grown up around it are a disgrace in this regard. They put far too much complexity on the user and take far too little responsibility for resolving the problems that complexity creates on a daily basis

· Minimize variety. A heresy perhaps, but it's close to impossible now to man age the deskton software environment plus the plethora of data warehousing and data mart tools. I see no choice but for companies to strip down software and hardware options, not in the name of standards but in the interest of the sheer survival and sanny of IS staffers and the user community. In net working, I suspect that means standard 177ng on 1P

Reduce learning and support require For this CIO and his peers in other ments at all levels. By reducing the need large companies, it would be as hard to for users and IS to learn technology there will be less need for user support structure as it would be to re-engineer by 15 and 15 support by vendors JFK Airport. The ideal answer is to

·Be commitment and promise-based not feature-based. The promises made by most IS organizations are about as reliable as the airlines. "We'll try to per you there on time. We may have to cancel the flight. Well, things do break down, you know." The IS architecture of tomorrow should be based on firm promises and commitments: "If we install it, it works. We guarantee the quality of the software we offer."

Outsource in the interests of samplefication of skills needs, management attention, support and architectural complexity - even if it increases imme-

Most of the companies I work with are at the opposite extreme of each of those principles for simplification. Their 15 units are working ever harder to add complexity. Let's stop. The policy for 15 should be simplicity, not high-tech. If IS remains a creator of complexity CEOs will find a sample solution: Out secure the let D

Keen's look The Business Internet and Intranets was published last month by Harvard Business School Press. He can be contacted at peter@peterkeen.com.

level of standard Web browser will be The CIO of a leading petrochemical the basis for design because that maxi-









How do you really feel about technology?

Review Center

Search engines

Putting SEARCH on your site

Planning and knowing your options will help users navigate your site – and will make them want to come back

By Kevin Burden inding the right nuggets of information on a Web site without a search engine is as easy as blindly picking the two of clubs from a deck of cards.

If your Web site offers no search engine, visitors and customers may find the site too hard to navigate and never return. Nearly as bad as sites with no search tools are those with crudely implemented search engines.

Users may blackball sites that deliver far more information than they can handle. All that time and money invested — wasted.

The right search engine can make



all the difference in a successful Web implementation. It can impose order and guide users to what they want from your site — product data, investor information or news. And the first step to finding that search engine is learning what they do and the three general ways to add search capabilities to a Web site. * Newson are stayed.*

utting SEARCH on your site

(HTML) and other formats

CONTINUED FROM PAGE 83

One option. You can simply farm out the search function to a public search engine such as Infoseek Corp.'s Infoseek Server or Wired Digital, Inc.'s HotBot by submitting your World Wide Web pages to them and pasting their search form to your site. But that approach has a couple of major drawbacks. Public engines may allow only to or to of your site's pages to be searched, and the engine dictates how frequently it updates them. If your content changes more frequently than the engine visits your site, users will be searchine old data

Another option is to let services such as PinPoint (aware neterestates). com/purpoint/), which have pur chased a search engine, create a separate searchable index of your Web site. They will create a search form to access this under and charge

But for Wirb sites with more advanced needs, hybrid engines from vendors such as Escalibur Technologies, Inc. in Vienna, Va., and Sovereign Hill Software, Inc. in Dedham. Mass., go beyond basic text-strong mutching to use probability techniques, pattern recognition and natural language guernes to support images, video and audio. Those hybrids specialize in delivenne mission-critical, need-to-know information and are primarily used

on corporate intranets. But for public Web sites that need to handle such diverse data types, hybrids can he the best choice.

Questions to ask Which way is best? Which search

engine is best? The only way to you a fee for the sec. answer those questions is to first vice. It's fairly simple answer some fundamental questo set up, but the fees tions about your internal structure may eventually become and capabilities. What format is more expensive than your data in, and where is it local

ed? How much mannower can you "The best search throw at maintain ing the engine's currency? Who will use" the search entine and how

savvy are they at searching your data2 To help you an swer those purstions, we spoke with three analysts who follow the search engine mar-

ket and several webmasters who shared their own experiences. How much time can you devote to administering the search engine?

A number of users interviewed confessed to not giving this enough thought early on, saddling themselves with engines they couldn't keep up with. "It doesn't matter how powerful or elegant the search engine is. If it's not maintained, if it's not up to date, no one will use it." says Kathy Lessa, senior project manager at JC Penney Co. in Dallas. Indexing the site is the main administration hassle. Lessa says. *Keeping the site current could almost be a full-time job for someone. I also wish I could dedicate someone to studying the different ways users search so we could tune

ton also is spending more time than anticipated on administration. "Netscape Catalog Serverl is not only taking too much of our administrator's tome but the CPU cycles at taken to update the index are running into the morning," says Alaina Metz, director of Internet ser vices. Metz is load-balancing

the index so it completes the refresh in off-hours But Wayne Wong, director of online systems at Seattle based PhotoDisc. Inc., which offers professional quality amages online, says users shouldn't put too much hope in finding easy-to-admin

engines in the short term "The problem with warrh took today is they worry only about themselves and not about where the data is coming from," he says. And getting the data to the search engine is where most of the work lies. Wong says. The trick is to ensure that your search engine can extract data directly from its source, he says.

Wong says he integrated three separate engines on his site. All are capable of connecting to databases via Open Database Connectivity They are Fulcrum Technologies' SearchServer for keyword searching VIR Image Engine from Virage, Inc. in San Matro, Calif., for visual searching - for example, "give me photos with blue backgrounds"; and LewWare from Erh S.A. in San

Francisco for natural-language gueries. As soon as the people responsible for creating new content add it to their system, it automatically trickles down to the Web site where the search engine goes to work indexing it. This is the value my group has added," Wong says. "We've made direct links between the systems where the data comes from to where the search engines are

looking for source data. We don't have a huge maintenance problem." What type of data will you be posting to your Web site All commercially available search engines can index HTML docu ments. But if you plan to let users search databases, text documents and appreadsheet files - at many would like to do in an intranet envi

ronment - make sure your search

engine supports those formats.

"The problem with search tools today is they worry only about themselves

and not about where the data is coming from." Although some engines support

upward of 200 formats, a safe threshold for corporate public Web sites is between 40 and 60 formats.

according to Boyle But she says the more formats supported, the better. "You never know what formats you'll need in the future. You may not even know all the formats you need right now."

Where is the data located? If your data is on multiple servers

your search engine must be able to crawl those different prevers to build the index. You also will need to decide where the index itself will reside. All search engines are cana ble of building a central index on your Web server, but searching a single enormous index can cause the types of performance problems that make users give up. Breaking up the under into several smaller indexes can help performance, but you will need an engine that can

build and search individual indexes on different servers. Who will search your site? Your search tool needs to work in

the same way your users think." says Jim Narucki, a senior analyst at Progressive Strategies, Inc. in New York. "If they think visually, they need to be able to express their queries visually." like photos of President Clinton stepping out of a helicopter. "If they are unfamiliar with the content, they need to ask questions in plain English." The challenge for webmasters

Narucki says, is to make the search Putting search on your site, page 86



engines help put context around content."

the cost of installing your own search engine, according to Paula Boyle, senior analyst at Kinetic Information, Inc., a research con sultancy in Waltham, Mass. The upside is that the administration required to use a service is lighter than it is to maintain your own en

A third option: For large, volatile corporate Web sites where content changes frequently, installing a search engine directly on the site can be the best option because webmasters hold ultimate control. The search engines most com-

monly used in those situations are search engines in the classic sense ones that occamize the site's information into a searchable index. The more popular engines come from vendors such as Venity, Inc. in Sunnyvale, Calif., and Fulcrum Technologies, Inc. in Ottawa. Those engines will search keywords in text, Hypertext Markup Language

for the best performance." The staff at Enron Corp. in Hous-



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COMPUTERWORLD
The Newsweekly for Information Technology Leaders

Putting SEARCH on your site

CONTINUED FROM PAGE 84

mg capability as friendly to the cagial user as it is to the capes uses IC Penney's site is filled with shoppers looking for things to buy. Its search engine doesn't need sophisticated language interpreters. It needs enough intelligence to make sense of its users' unpredictable queries such as missipelled words and queries such as 'what is new

Verity provided that and allowed the webmaster to customize the search screen so it wasn't intimidating 'Ease of use to our users is what we cared most about " Leves save. Sites full of highly structured

files, written in sophisticated lesi cons and hit by a variety of users. put more demands on search engines. Physicians' Online. Inc. (usew po.com), which directs users to medical reference services, needed an engine that would adapt to a variety of users. "It was important that the search would accommodate doctors that speak the same language some of the documents are written in, as well as users who type

Physicians' chief technology officer, Jean-Louses Ecochard. Physicians' chose Excalibur's RetrievalWare for its natural language search capabilities. Through a Symantec Corp. network, which

links unique words to their possible definitions, the engine retrieves relevant information no matter how the search is worded The older Boolean style of searching ("and," "or," "not") is giving way

are far more accurate and easier for end users to understand. A typical Boolean search may find documents

containing the specific keywords. done," he says. "Is it but it can't rank the documents by relevancy, nor can it understand context. A Boolean search such for the word "fans" will match the term they don't include to desk fams as easily as it does to the exact words or fanatics Boolean is still a

staple of most search engines. Natural-language shifting are found in the more sophisticated enguses such as Retrieval-Ware or Soverrign Hill's InOtoens

Search continues

Still, getting a search en gine to work on your sitis only half the sol: the rest involves

getting users to actually use it. For that, you need to pay attention to the four things users truly care about: Is the search engine easy to use? Is it returning the most current data? Are the documents in or in off-the-cuff questions," says der of relevance? And how fast an the documents returned? Most of those factors are controlled by the webmaster, but relevancy depends on the engine.

Relevancy

Queries often return more documents than users have time to look through. Thankfully, most search engines rank documents in order of relevancy, with the more pertinent ones listed first. But the way to the newer natural language or engines determine relevancy differs plam English queries because they by vendor, says Carl Frappuolo, an executive vice president at Delphi Consulting Group in Boston, "Users should ask vendors how it's being

intelligent enough to pull relevant documents even though

"Your search tool needs to work in the same way your

users think " phrase searched? Knowing how the relevancy algorithm works will help determine if it will work against the

documents on your Web site." For instance, engines that use probability methods can determine relevance through word frequency They assume the more a word is mentioned, the more relevant it is to the query. They may also look at the pronumity of words, meaning documents with keywoods high in the text are probably better matches

than those in which the words don't appear until the last paragraph Some engines will automatically generate a summary of each document so users can choose which one is more relevant. Others use more advanced techniques such as categorization or clustering, which automatically put the results into in-

drodual subcategories "The better the relevance, the more useful the search engine will

be to your users." Françação says. Performance

You want your search engine to work well, but anahysts say don't knock yourself out evaluat. ing the speed of the different engines. You'll be timing subsecond, insignificant

differences if you do." Frappeolo save But there are some tricks webmasters can use to optimize the searching function. The most effective involves

tuning the indexing. How it's created and searched affects performance more than any other factor. Boyle says. Eliminating certain words such as "and," "the "but," "so," and so on from the index makes the search cleaner and

faster. And dividing the index into several smaller, relevant indexes can quickly narrow the documents to be searched

If you are making a decision about a search engine, keep in mind that Web sites aren't getting any smaller. What fits today may be too small in the very near future Boyle recommends that users

pick the most robust engine with the most aggressive language intelligence that fits their line of busy ness. When evaluating search engines. Boyle says to keep in mind that, "the best search engines belo put context around context.*D

Burden is a Computerworld features

Company and product locator

NetCreations, Inc Din Dount New York (718) 522-1511 www.netcreations.com

Wired Digital, Inc. San Francisco (415) 276-8400 hothot.com

Folcrom Technologies, Inc (being acquired by PC Docs) Fulrnum SearchSenser

(613) 238-1261 www.fulcrum.com

Infoseek Corp. Infoseek Serve Summoule Calif (800) 781-4636 www.infoseek.com

Verity, Inc. Coarchot

Suneyvale, Calif. (408) 541-1500 www.venty.com

Excalibur Technologies Corp. Retrieval/Vore Vienna, Va (800) 188-174 www.recellib.com

Virage, Inc. VIR Image Engine San Mateo, Calif. (650) 573-3210 www.virage.com

Sovereign HIT Software, Inc. InQuery Hadley, Mass

(800) 444-2516 www.sovereign-hill.com

Cors

Catalog Server Mountain View, Calif. (650) 254-1900

Erli S.A. LexiWare San Francisco (415) 392-6500 www.edi.com

SEARCH r the star

By Beth Roed and Jared O'Connor

If you're looking for Web sites with exceptional search engines, the corporate world may not be up to snuff: Most engines rated adequate in

a review of 30 sites, with computer vendors taking

the lead

fickle Web visitors who want to navigate your site in a liffy, or annoying fratures that will bring back any document but the one the user is looking for? We reviewed the search engines at 30 representative World Wide Web sites in 10 industries to find out whether the engines are a help or a hindrance.

Are they useful tools for

Our study revealed that, aside from different appearances and search options nearly all engines were solidly, well average. A few engines stood out from the crowd: Apple Computer, Inc.'s and IBN's sites had the best engines, where excellent organization of content produced concise, releyard regulte with little useless information Each Web site's search capability was rat

ed on a scale from 1 to 5, where 1 indicates such poor execution that the engine should be removed or prolaced, and a indicates an extremely valuable and effective tool. No engine rated as low as a 1 and none scored a 5, although Apple and IBM scored over 4.

The best search engines quickly listed results by relevancy, gave succinct but effective page summaries and allowed the use of simple Boolean search filters such as 'and,'

In other words, they made it easy for visitoes to quickly find what they needed. We found that Web sites that used external third-party search engines (such as the services offered by Excite. Inc. or Infoseek Corp.) were consistently less effective than custom-built engines based on core technologies such as Verity, Inc.'s Searchor or Netscape Communications Corp.'s Catalog Server

We found that many engines, such as Microsoft Corp.'s, had overly sophisticated searching filters and underdeveloped summaries. In our opinion, the most essential feature of any search engine is the ability to present the visitor with coherent, concise results. Thus, we gave high marks to engines that listed results with clear summaries, rather than frustrating the visitor with simple uniform resource locators, vague page headings or Hypertest Markup

Language text. Engines that use algorithms sort by word frequency, often returning pages that are only-tangentially related to the topic users

are trying to track. That's why the organization of content is so important; users would rather enter one word and have the engine deliver what they want than enter long strings of Boolean filters to sort through a poorly organized site. Ultimately, the engine should do the work, not the user

COMPUTER HARDWARF One of the best overall search entires we

found was at Apple's site. The impressive. unique "area match" feature guided visitors to general sections of interest as well as to specific pages. For example, a search for "laptop" provided a link to the PowerBook area of the site, as well as individual pages for specific PowerBooks models While not as feature-laden as other enmes. Apple's engine is a prime example of how superb organization of content made an otherwise average search engine shine.

Compag Computer Corp.'s search ensure offers both simple and advanced search options, although it was less forgiving if visitors didn't know the exact product name (such as Presario). Newlett-Packard Co.'s size was easier to search for generic terms but needed better organization of content.

RATING Pwww.apple.com A.1

Pwww.hp.com - 1.5 www.comoss.com - 1.0

COMPUTER SOFTWARE As a group, the search engines of comsoftware companies received the bighest marks overall (1.8 average). One of the

artest search engines we found was at IBM's site. When reviewers searched for Lotus Development Corp.'s somewhat obscure word pro

cessing program. AmiPro. the engine esturned links to WordPro. the program that replaced AmiPro. Bot even more impressive, it didn't bring back numerous links that had nothing to do with the subject.

IRAC's commencies

were refreshingly di

rect, devoid of any mysterious characters and presented in plain English.

Microsoft's search engine, on the other hand, is a perfect example of one that is unnecessarily complex Microsoft's engine is terrific on sample

word searches, but when users click on "advanced search," they are presented with more than 20 screens of Boolean logic terms. It's tough to see how someone look ing for updates on the latest Windows NT release would need that

Nevel, inc.'s current engine, due to be replaced soon, provides results that can be difficult to sort

RATING

► www.ibm.com - 4-3 ► www.microsoft.com - 3.8 www.novel.com - 3.3

TELECOMMUNICATIONS

ATET Corp. offered the top-rated search engine in telecommunications. Based on Verity, it is quite fast, easy to use and offers visitors several viewing and sorting options. The engine's speed comes from being housed on a separate server, according to

Andrew Myers, managing webmaster at MCI Communications, Inc. outscored Bell Attentic Corp. based on its more useful advanced features and clear, comprehensive search tips.

RATING

www.att.com - 3.6

► www.mci.com - 3.2 www.bell-sti.com - 3.0

Search for the stars, page 85





SEARCH the stars

CONTINUED FROM PAGE 83

PETAIL Wal-Mart Stores, Inc.'s search en-

gine was rated the best in the retail section for its unique ability to search by once ranges That useful feature shows Wal-Mart clearly had customer needs in mind when designing

the engine Spiegel, inc.'s current engine is a temporary patch until it can implement a permanent fix Web site manager Barbara Vaushin chose to use this en-

up in the ward Nestie USA, Inc. is another company that uses an external "Excite for Web Servers" search engine. Nestle implements it better than does Onlinesports com, but quirks such as beoken summary links dragged down its rating, Johnson & Johnson had the lowest-rated search engine among those we tested. The

ensure was fast enough, but was very poor in returning relevant results. There were no search trps to be found, and any thing more inunleed than a one-word search resulted in no matches at all

> Searching for the term "band aid" returned no doc uments at al about Johnson & lohnson's own Band-Aid prod ort But search ing for "diapers"

resulted in sever al links related to Band-Aids, This is an example of how a confusion

engine can de-

RATING - www.gene ralmilis.com- 2.9

► www.nestie.com - 2.2

the popular Excite external engine with mediocre results at best. It worked fine if we know the exact product name, but GENERAL searching for "baseball glove MANUFACTURING returned everything but baseball gloves, even though Onlinesports com carnes several different models RATING

-

Johnson & Johnson's site shows how a confus-

ing, frustrating search engine detracts value

gine, based on sample keyword

searches, rather than be without

Onlinesports.com is an Inter

oet-based company that uses

one at all.

www.wai-mart.com - 3-9 www.spiegel.com - 3.2 (temporary search engine) www.onlinesports.com - 2.5

CONSUMER GOODS As a group, the search engine of consumer goods companies received the lowest marks overall (z.6 average).

At the General Mills, Inc. site searching for "Hamburger vielded numerous Helper* opportunities" that contained the words "hamburg er helper," but the page relating to the product itself didn't show

Best-on-class Ingersell-Rand Co. chose to use Netscape Catalon with a custom-developed from end for its search engine. That gave the company the ability to catalog data and to tweak and improve the site depending on popular search terms. After finding that numerous visitors searched for the word "Bobcat." Ingersoll-Rand set up "bobcat

" That customization resulted in a solid, useful engine that returns relevant results Caterpillar, Inc.'s search engine is sample, quick and will accept multiword searches but doesn't offer any search tips for the

user. 38 used Excite and got results comparable to Nestle and Onlinesports.com.

PATING www.ingersoll-rand.com - L7 www.caterpilar.com - 3.2 www.memm.com - 2.7

FINANCE Fidelity Investments' search engines are unique. There is no means to search the entire site from the main page. merely an engine to look up stock information There are smaller engines in subdirectones of the site, allowing limited site searches and quickly returning detailed in formation on particular stocks In this limited context, it per formed quite well and thus was rated higher than Protential Insurance Company of America and olitan Life Insurance Co. for

its effectiveness as a tool for in-MetLife's engine provides no search tips, no summanes and to advanced search options. But it has Boolean capabilities and is tolerant of spelling errors which is a rare and useful fea-

RATING

www.fidelity.com - 3-4 www.metife.com - 3-3 www.prudential.com - 3.2

NEWSPAPERS

The New York Times' search emgine generally was fast, but it

slowed when retrieving pages that appeared the same day as the search. Because the news content is updated frequently. indexing is key to the news sites. The engine accepted multiple word searches, had a mor search tip section and was

deemed the best of the category. The changing consent of newspaper sites as well as the special challenges faced when searching classified ads has kept Lensont Southworth, technology manager for New Media at the Los Angeles Times, more than busy. The paper uses Netscape tools on its main news site but had to turn to Eucalibur for the special needs presented by classafied ads. The Los Angeles Times' site handles searches

well, but it is one of the slowest. Rather than provide specialared summaries, the Chicago Tribune's engine includes the first few sentences of the article. which is generally enough to tell if the results are relevant. The engine only searches the current edition of the Tribuse

Il-Rand got so many "Bobcat

but offers the opportunity to search on archives and advertisers. When searching archives. visitors get a quick summary of the article and the option of purchasing the full article for \$1.95. So if you missed yester day's news, it will cost you

RATING

www.mrtimes.com - 1.6 www.latimes.com - 1.2

www.chicago.tribune.com

GOVERNMENT

The U.S. State Department's encure was down for more than two weeks, but when we finally were able to access it, it turned out to be the best in the government category. Decent sum maries, links to similar page and plenty of useful search filters made it a valuable site

The Internal Revenue Service's engine was unbearably slow It wasn't linked to the main page and provided no summaries of results. It was rather tolerant of spelling errors and had Boolean capabilities. The site itself was surprisingly funny and lighthearted. But the "site tree" provided for navigation is far more effective as a scarching tool than the engine itself. The Environmental Protection Agency provided hands search tips and Boolean logic

RATING

capability, but the lack of decent www.state.gov - 3.6 www.epa.gov - 33 www.irs.gov - 2.0

EDUCATION Arizone State University was the only one of the sites reviewed to use Infoseek's Ultraseek external search engine. The engine

is slightly ahead of Excite's external tool for Web servers but still langers in the av crase territory As is the case with most search engines we reviewed, it will bring back nu merous results

but the visitor queries that it made a pobcat.com site doesn't see how the pages exist within the context of the rise such as with Apple's "area re sult." When searching for a word such as "digital" that exists on numerous pages, there are few indications about which page is best suited to a visitor's

> MIT's engine was slightly bet ter: the search tips were humor ous and the engine was easy to use. The summary was shelith

lacking, but it was a fast, useful Stanford University's engine gave strange summaries that seemed disconnected from the data, but the page links returned were typically relevant.

RATING ► web.mit.edu - 3-3 www.stanford.edu - 3.2

► www.asu.edu - 3.2 By the way . . . what about Computerworld's search ensine? We found it to be solid and useful. It lists the number of arts cles matching a visitor's search terms, whether those articles were news or opinion pieces and whether they appeared on line or in print. It lacks comprehensive summaries, but the article titles were usually

emough to indicate a match. It supports Boolean search terms and has sensible advanced search options (filtening and listing results by datel. D

RATING www.computerworld.com

- 28 Editor's note: These reviews were conducted in late January/early February. Some of the sites may

have changed in the interim Roed is director of New Media Services and O'Conner it new media analyst at The Delahay Group, Inc. in Portsmouth, N.H.

In Depth

Meet the



By Leslie Goff

MORE OFTEN THAN NOT. THE FOLKS WHO SEND OUT

UNWANTED E-MAIL ARE ... JUST FOLKS, NOT EVIL GEEKS.

NOT SWEATSHOP OWNERS, JUST PEOPLE WORKING FOR A LIVING. WE ASKED THEM WHY

THEY DO IT AND WHAT

IT'S LIKE TO BE SO

DESPISED BY SO MANY.

Susan is a 40-year-old mother of three and a former social worker in the Connecticut public schools. She and her husband, like many Americans. wanted to break through their

her opportunity. She is in a network marketing business selling 'neutraceuticals,' an emerging class of natural preventative health care products that are supposed to build the immune and endocrine systems. After two years, she's making

\$16,000 - about the same as she did as a social worker.

er I'd make a certain amount of money and pener more, no maiter how hard I worked," says Susan, who asked that her last name not be used. With neu

traceuticals, "there is definitely financial glass criling. a feeling that the sky's the limit. Susan thinks she has found An average [traditional] franchise costs at least \$80,000. and you can get into network marketing for \$50 to \$1,000. That's a pretty good deal." Susan believes in her product

line. She started giving neutraceuticals to her kids several years ago to combat chronic infections, "and they haven't had to go to the pediatrician in two "I knew that as a social work- years for anything but camp physicals," she save

You probably don't know Susan, but you may have received electronic mail from her. Meet the people who send

you spam. Terrell Boyle, 21, was making 57 per hour as a painter's assi tant when he decided to test his entrepreneurial skills on the 'net Shawn Chhabra, a thurty something immigrant from In dia with a master's degree in mechanical engineering. had

sold his restourant and was looking for a new business op portunity when he became a bulk E-mailer

CONTINUED FROM PAGE SO

ed his Internet marketing com jum Webb, 16, a family man who Genesis Research International, he works in a welder's supply shop to tried several home-based multileval hours per week, would like to work at marketing businesses, unsuccessfully home to ease the child care burden on His business idol is Anthony Robbuns. his wife, who works mights. the toothy king of late-night infomercals for aspiring entrepreneurs

Those people are the answer to the question that millions of users mutter "Who sends this garbage, anyway?" They are small fry. They aren't the Sanford Wallaces of the snam world. change their lifestyle, make a few extra dollars or just get by," Webb says. But to Internet users who abbon

spam, they are no less annoying than тедагратитетя. Nevertheless, they all intend to continue spamming. With one notable ex-

Boyle has an infectious enthusiacm for bulk E-mail. When Susan contacted him about reselling neutracruticals - his name was on a qualified-leads

list she bought - he turned the tables and sold her his bulk E-mail services instead. Boyle spoke in glowing terms about the power of direct marketing over the Internet. Susan, who wasn't yet online, thought it sounded like a cost-effective way to build her distrib-Boyle never mentioned spare

Like Susan and most small-time spammers. Boyle was an Internet newbse when he delved into bulk Email. He year that in his first mouth online, he raked in \$4,500 hawking E-mail address extraction, list genera tion and bulk E-mail services, as well as World Wide Web site design for mom and pop businesses. Boyle 5215

his E-mail service generates a 1% to 10% response rati He is vague about his sustained rev-Boyle says, "I'm not real good at keeping up with my income and expenses

Chhabra, president of halk E-mader Information Warehouse, Inc. in St Louis (www.bucnesslisting com), tracks his numbers more comfully. He sends 200,000 E-mail messages per month, promoting a range of products for clients and patching his own E-mail software and services. Like Boyle, he claims a 5% to 10% to sponse rate

Some of Chhabra's amtudes are the enet that repel antispammers. He won't send soam that promotes pornography ("I have a q-year-old daughter," the father of four says.) But he does accept clients who promote pornography. He simply subcontracts such work

Chhahra says he doesn't force ad dresses and that he always provides a way for recipients to contact him. Although he's been shut down by various Internet service providers Chhahra says he gets only a handful of negative responses. Of 200,000 Email recipients, he says, maybe 20 send a flame and four call to complain

Recently his monthly revenue has averaged about \$5,000, and costs are about 20% of revenue. Chhabra savs. He expects to gross \$80.000 this year, compared with \$30,000 last year. "I think there's potential for making \$200,000 to \$300,000 a year," he

Webb, who is based near Lexinaton. Ky, says he is motivated by bulk Email success stones. He also claims a 5% to 10% positive response rate, hur he has yet to strike it

One day I got 10

answering machine.

and about half of

them were cursing

and screaming.

messages on my

hig enough to leave his sob at the welding shop His monthly revenue averages \$200 to \$500, he says, limited by the fact that he spends only two to these hours a night on the

But Webb believes. "I think spam is an overly used term," he says. "I try to do a minimal message a teaser - and if people reply, then I send them more in

formation." Regard ing spam-baters, he says, "if they're not interested, it's a lot easier just to do a delete. But I know la spammer in Canada who got bombed with

27,000 E-mails."

SUSPICIOUS MIR By direct marketing industry standards. Boyle, Chhabra and Wehh are doing well indeed. Very well.

Of the 5% to 10% response rate that all three claim, "the numbers are a lit tle hard to believe," says Ken Marsii. sensor editor at DM News, a directmarketing industry publication in New York. 'The benchmark is that 1% to 2% is pretty high. So 5% is very high, especially for a group that you likely haven't qualified. And antispammers vehemently re-

fute the notion that spammers are profitable. David Sorkin, associate di tector of the Center for Information Technology & Privacy Law in Chicago contends that sales of sparnming ser vices generate more revenue than ac tual product sales via bulk E-mail And Scott Hazen Mueller of the

Coalition Against Unsolicited Commercial E-mail, another antispare group, says he doubts that enamming services garner a net gain: "If they were making money sending sp. for you, why would they sell the tools for you to send your own

HEARTBREAK HOTEL

Susan, the neutraceuticals distributor had both hopes for bulk F.mail Rofore she signed on with Boyle, buildone her network of distributors was time- and cost intensive. Once a week she would buy a list of 100 preouali fied names. Reachage everyone on the list pushed her phone bill to \$250 per

month and only a few turned use up able leads She wanted to earn \$100,000 per year, and Boyle convinced her that bulk E-mail could get her there much faster than traditional direct market

Then - just before she sent out her first letter - Royle finally told her about spam, flames and trate users. "I was glad he did because one day I got to messages on my answering ma-

chine, and about half of them were cursing and screaming," she

But Boyle reassured Susan She signed up with America Online. Inc., did another mailing and waited

From 20,000 Emails, she got 60 replies. A third squeht more informa. tion, a third were remove requests, and a thard were from other spammers trying to sell products to her.

In the meantime. Boyle's performance grew inconsistent. He occasionally couldn't be reached. He wasn't sending out her letter as often as he'd promised.

Susan gave him the benefit of the doubt. After all, she and her to dis tributors had given Boyle a total of

\$1,000. Surely he would deliver. Then, in late January, Susan found that she couldn't access her AOL account. When she called customer ser vice, she was informed that because of customer complaints about spam with her address on it, her account was terminated. She explained that she was merely using her AOL mailbox for responses, not to send, but her pleas for

reinstalement were to no avail Susan called Boyle asking for the \$1.000 back, per the terms of their contract. "Every cat has nine lives, and I feel I've given him his," she says But Boyle isn't returning her calls. No did he reply to a request for a follow up interview for this article

"He was so nice and enthusiastic that I sort of got taken in." Susan says "The good thing is, he got me on the Internet. ('we learned a lot, but now it's time to move on."

Ladies and gentlemen, a spammer has left the building. []

Goff is a freelance writer in New York

when they delete (unread) snam: (Wallace owns the large, loathed spam company CyberPromotions). They resell spam software and send bulk F. mail on behalf of clients. By and large they appear interested in not offeed. ing their fellow 'netizens. 'The majority of us are just the everyday people you see on the street who want to

cention

CAN'T HELP FALLING IN LOVE Boyle, in Baton Rouge, La., turned Su-

san on to bulk E-mail. Before he startor and sanda liberso be

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IT Careers

To H-18 or not to H-18? That is the question facing Congress this month as a bill is introduced to raise visa quotas for foreign

By Aluce LaPlants

DEMPSEY'S problem is a familar one As director of applications development at Sealand Services, Inc. in Elizabeth, N.L. Demosey desperately needs skilled information technology

workers. He needed them vesterday. He'll need them tomorrow. Client/server, Java, year 2000 you name the technology, Dempsey's looking for experienced analysts and programmers. And like just about every other IT manager, he's having trouble snaring them

Demosey refees on all the traditional recruitment methods to find skilled information systems talent. But he also depends on non-U.S. citizens to fill the gaps in his staff. We're not talking cheap foreign labor here. This is a temporary - and expensive - solution, Dempsey emphasizes.

Immugration law allows foreson nanonals without so-called green cards (actually no longer green) to work here for six years at the most. The legal paperwork for acquiring appropriate work visas takes time and money. And wouldbe employers need to comply with strict munimum salary guidelines (see box at

90,000 annually

right). Thus H.18 employees - called that because of the type of visa they require - aren't a large percentage of Dempsey's workforce

Nevertheless, they are a source of desperately needed skilled IT labor. A bill was introduced last week to increase the quota of H1-B visas from 64.000 to

Employers such as Dempsey would be

in trouble without that labor source. 'I need to staff up any way I can," he says. Dempsey 150't alone. Qualified foreign nationals such as Raily Shukla have no trouble finding companies to sponsor their initial H1-B visas - or moving on if they see greener pastures.

Shukla came to the U.S. from India to earn a master's degree in computer so ence from the State University of New York in Albany

An H-1B primer

The H-18 application must be led by a business sponsor (a veri

As is traditional, upon graduation, he

U.S. on an extension of his student visa He says he had no trouble getting a small West Coast software company to

connece his H1-R year Heavily courted by recrusters and other technical employers, Shukia eventually

accepted a more challenging position at Morristown, N.I.-based Belicore, Inc. The company was so eager to snap up Shukla's services that it paid all the fees and processed all the legal paperwork mvolved in his reapplication for a visa-After two years at Bellcore. Shukla de-

cided he was ready for greater intellectual and professional challenges. Again, he had no trouble finding an employer in this case. GTE Laboratories, Inc. in Waltham, Mass.

Eventually, Shukla must decide if he wants to apply for a green card. He says he's less worried about find. ing a sponsor - experience has shown

that he's a valuable commodity in today's market - than whether staying in the U.S. is the right decision for him and his

Everyone agrees there's a shortage of skilled IT professionals, even if estimates

was allowed to work for a year in the ' of the shortage vary. What's at insue is whether immigration is an appeopri-

People such as Demosey and Netland say they should be able to here as many qualified foreign nationals who conform to U.S. immagration laws as they need. Others, including the Clinton admin istration and the Institute of Electrical and Electronics Engineers, Inc. (IEEE)-

USA, armie that such an amnule deprives U.S. citizens of jobs Businesses should improve training and educational efforts, not use immugration, to solve the technology labor on

sis, they say Although Congress in 1990 estab-Ished a 65,000 limit to the number of H-18 visas issued annually - many of which include family members coming

to the U.S. - it wasn't until last year that the limit became an issue. Last September, one month before the end of the federal government's 1997 fis-

cal year, the cap was reached. Processing of all H-1B visa applications was placed on hold for about a month That was "a fairly minor delay," concodes Harris Miller, president of the Information Industry Association of Amersca. But it signaled trouble ahead. 1

"Without increasing the H-1B visa quota ... once you count the applications backlog from 1997 and our continued rapid economic growth, we believe we could hit the cap at early as May or June thus year" Miller save

That could have a dramatic impact on U.S. business, says Harry J. Joc. head of the immigration practice of law firm Jenkens & Gilchrist in Dallas.

He processes about 2.500 H-18 visus annually for clients such as CompuWare and Atlantic Richfield, which import

experienced workers to fill technology positions that would otherwise be emp-But others argue that more apprecia-

training and education efforts can bridge the IT labor shortage In February, the Clinton administra tion announced a \$28 million plan to do

past that. And groups such as the IEEE point to the number of U.S. workers displaced every year - about 160,000 who could be retrained for entry land

technology jobs, says Shankar Lakhavani, chairman of the IEEE-USA Workforce

Making sweeping legislative changes to immigration law would be jumping the gum," Lakhavani savs

There are other issues, as well. "Our clients aren't just looking for bodies to fill seats. They're looking for talent and demonstrable experience," says Vincent Webb, vice president of marketing at Management Recruiters International, a leading IT search firm in Cleveland. Funding qualified candidates, assessing their technical knowledge and ascertain

mg "softer" skills such as language proficiency - all from a different continent - presents a challenge. Webb says Dempsey's buggest challenge - sur prise, surprise - has been retaining his H-1B employees. Like U.S citizens.

they're likely to be snatched away by other firms "Once they get here, it's fairly easy for them to switch employers," Dempsey

says. D La Plante is a freelance writer in Woodside. Calif

FOREIGN INVESTMENTS

RAJIV SHUKLA

Country of origin; India

First came to the U.S.: In 1993, to attend gr school at the State University of New York in Albany Education: Master's in computer science

Current employment: Member of the technical staff at GTE Laboratories in Waltham, Mass. He works on World Wide Web-based systems management software to be used by other GTE business units.

H-18 visa experience: Noneventful. Shukla was hired by a small California software company while still on his student visa. That entitled him to a one-year "technical training" extension. He was hired by Bellcore, which sponsored his H-1B application and processed all tha enwork. After two years at Bellcore. Shukla moved to GTE, which handled the legal and bureaucratic paperwork of reapplying for an H-18 visa. All of this was "yery easy, no trouble at all." he says.

Time remaining on H-1B visa: Three years.

Long-term goals: Earn doctorate in computer science Plans to stay in the U.S.: Unclear. "Work would be bet

ter here, but there are reasons to go back, primarily personal," Shukla says. dvice: "You can make an amazing amount of mor

these days working in the technology field, but I'm more concerned with making sure my life is heading in the right direction."

INGO PAKLEPPA

Country of origin: Germany

First came to the U.S.: In 1977, as a high school ex ange student. He lived with an American family in Revue, Wash., and attended high school for a year. Paklepps decided he wanted to return to the U.S.

Education: Diplomingenieur der Elektrotechnik (equi-valent of a master's degree in electrical engineering).

syment: Senior software consultant at Eagle Creek Systems, Inc. in San Diego. Ha develops custom Windows and Web applications for clients.

H-18 visa experience: Difficult. It took Paklepps m than two years of interviewing to persuade a U.S. com ny to hire him. Manager it "didn't want to go through the hassle" of the pa work, he says. But the manager who hired him left soon after to form a start-up and brought Pakleppe with him. Officially, the manager was Pakleppo's

"sponsor," but Pakieppa did all the H-18 work — badly It took three tries before his application was accepted. With the current cap, "It takes much longer, even if you do everything right," he says.

Time remaining on H-18 visa: It expired last year, but he was granted an extension while waiting for his gree card (also sponsored by Eagle Creek) to come through

g-term goals: To continue working at Earle Creek and be co-owner of a business some day Plans to stay in the U.S.: Definitely

Advice: "Hire a good lawyer. You can do it on you own, but you'll waste time," Paklegos says, "Also, be careful. There are a lot of bad lawyers giving bad advice out there."

RAKESH KANDAR

Country of origin: India

First came to the U.S.: In 1985, to attend gradual school at the New Jersey Institute of Technology.

Education: Master's in computer engineering Current emplo went: President of Boston-based DB

Concepts, Inc., an international recruitment firm thatspecializes in placing database professionals H-18 vise experience: "Quite simple," Kandar says. Ha converted his student visa to an H-18 while working at a small consulting firm that specializes in Informs

ware, Inc. database design. That company also eventually sponsored him for his green card Time remaining on H-18 visa: Not applicable: Kandar now has his green card.

Long-term goals: Continued success and growth of D&

Plans to stay in the U.S.; Of course

Advice: "Good technologists are in such demand right now that they come over with very high ambitions. Most have a laundry list of the things they want from an amployer, and typically they have more than one offer in their hand. More critical is timing: If you want to change employers, make sure you time your H-1B application so that your new one comes through before you give notice. Otherwise, you might end up in limbo If you are trying to get a green card, the financial stabil ity of the sponsoring company is critical because you must stay with that company until your green card comes through. This can take from two to five years. If your company goes bankrupt, you have to begin the process all over again."

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Salaries are soaring for experienced Baan professionals, but this can be one hectic lifestyle

storming



Lee

TING A WHITE KNIGHT IS VERY Affractive to 15 professionals such as John Fechenbach, director of North American implementation services at SE Technologies in Denve

When you're installing some of these software systems and you can see that it really makes a difference to a lot of people, you really get that white-knight feeling." Fechenbach

Fechenbach and others in his field are installing systems from The Baan Co. Industry experts say Baan - along with systems from SAP AG, Oracle Corp. and PeopleSoft, Inc. — is one of the four major enterprise resource planning (ERP) products on the market. Baan is attracting information technology professionals with its well-publicized high

salanes and hiring demand. But those working on Baan systems say although there is a plethora of jobs available, the six-figure salaries go to a select group of people who have worked in the market for several years and are will-

san's best market:

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mg to live a somewhat hectso

A typical salary "would be anywhere from entry-level position. say, \$40,000 to \$60,000, easily into the six figures based on depth of expertise and the amount of ement experience that you could bring to the table," says David Stine, sensor manager at KPMG Peat Marwick LLP's Bean

"I think it's not necessarily a question of salary, [but of] lifestyle," says Andrew Nash, global managing director of the Baan service line at Atlanta-based Delotte & Touche Consulting Group/ ICS

The lifestyle is quite demand ing. As clients are going global and implementing global, they want people to work wherever their operations are," Nash says.

The most valuable asset a professional with Bean skills can bring

to a company is being able to com bine technical and business knowl edge. To add value in a Baan en gagement, you not only need that industry and

functional expertise, you need to have a deep appreciation for the product itself and how it all interrelates," Stine says.

Stine also says his experience working with Baan has taught him to think about how one action in an implementation may affect all other reactions in an implementation

"If I was going to change a domain, say from a routing code from 6 bytes to 12. I have to know everywhere that field is being used. And I have to appreciate how it's being used so that I (don't) antroduce problems when I change at in one place. since it's used elsewhere," he says. "Gone are the days when, within the ERP realm, you can be a heads-down techne

As for the future of Baan-trained professionals. there are a number of directions they can go." says Doug Canty, partner in charge of the KPMG/ Baan practice in Toronto. "They can go into, for example, the consulting world and become senior consultants and project managers, or principals, in consulting companies."

They also can stay at a client organization and Lee is a freelance writer in Austin, Texas

rise through the data process ing ranks, Canty says, "If they have some of the business skills already, they can go into general management within the business because they understand how the technology

can be applied to the bus ness," he says The buggest challenge with in the Baan market is finding enough qualified workers to fill positions.

"It's essentially a market where we have to search long and hard to get the skills, and also we have to create skills." Nash save

TRAINING OPTIONS In create those skills, many companies have their employ ees train at Baan's training center or provide employees with their own in house train

"It depends on how you come into the field." Canto says. For example, Baan offers introductory training for entry level staff. It takes eight to ro

weeks to become trained in the product, he says. It involves an introductory course and overview courses for each of the major functional areas such as the finance function, the manufacturing function or the distribution function

Then it can involve specialized training in quite a number of different topics, such as electronic da ta interchange, manufacturing planning, financia reporting, that sort of thing," Canty says

Technical skills Baan workers need may include an understanding of client/server technologies and architectures, object integration, programming project leadership experience, Unix and, increasingly. Windows NT skills

Baan experts say the most important advice to remember when seeking employment in this field is to evaluate your skills and make sure they fit the Baan business

"If you can focus on the fundamental busin metrics and how your skills are going to affect them, you will be head and shoulders above the mdisadual that can't " Stone was I'll



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preferably with large decision support systems are required.

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(preferably the AIX operating system) is required. PROGRAMMERS, PROGRAMMER ANALYSTS

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tems is required. A thorough knowledge of IBM's OS/390 strategy and prior supervisory experience are preferred **OS/390 (MVS) SENIOR SYSTEMS PROGRAMMER**

This position is part of a team that supports the MVS/JES environment. 5 years experience supporting an MVS anvironment is required. Strong assembler and OS/MVS skilts are preferred DB2 SENIOR SYSTEMS PROGRAMMER

5 years experience supporting large DB2 systems will qualify you for this job. Strong installation and system administration skills are required. Experience working with Oracle in a multiplatform environment is preferred

CICS SENIOR SYSTEMS PROGRAMMER

Responsible for CICS and related operating software. This por tion requires 5 years experience working with CICS in an MVS environment. Prior experience as a CICS programmer is one ferred. Strong assembler and TCP/IP skills are a definite plus.

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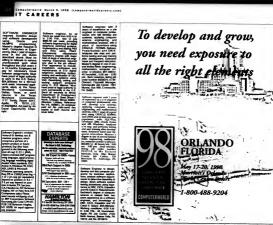
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A few times each week, we also have Links listings. These are resources related to online and/or print stories. We also have polls and forums that you must register for to access. The rest of the sale is accessible without registering Contact: Johanna Ambrosio, Online Editor, (508) \$20-8553 or Johanna, ambrosio@cw.com

Companies in this issue

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Data marts to R/3 rescue

merkaron data warehouse neoect manager at Janssen-Ortho The Toronto company, a \$400 million Johnson & Johnson uni that sells prescription doors in Canada, went live with R/s in September. Now it is building a separate data mart for sales and materials distribution records.

Sommerkamp said S-B Power Tool, a Bosch Gmbh unit in Chicago, didn't even get halfway through an intral Rts recolorsestation before tearing up a plan to do its sales reports within the applications. Getting mainframe-based histoncal data into R/3 was impos-

sible. "short of recreating the sales as orders" and running them anew, said Dave Parris. sice needent of information personal at S. R. Browner Torol

And SAP's reporting and que ry tools were "not acceptable for end users." he added "They're very difficult for people who aren't computer-oriented to

R/s work began at S-B Power

Tool early last year. By summer the company launched a crash project to build a data mart that could hold both the SAP and mainframe sales data. Both are scheduled to go into use in Barry Wildemian, an analyst

at Meta Group, Inc. in Stamford, Conn., said the need to break reporting and analysis out of R/s is widespread. But it often goes unrecognized until companies start working with

R/3 LIMITS

Factors that complicate data analysis leside R/3

- > SAP's report writer is targeted at programmers R/3 reports look like mainframe green-bar documents
- Manual coding may be needed to build analysis tables
- Bringing non-SAP data into R/3 is difficult

Analysis queries could bog down transaction processing

the software R/s as a great product for lots of threes, but a lot of luverel mo consume way too much SAF

Wilderman said "They think that once they've got R/s, they're done, and they're no

Global IT hell

CONTINUED FROM PAGE 1

airplanes," said Ricketts, who

runs the London bank's global

IT infrastructure as a one-man.

one-rote arrangement. "I'm the

man, and I've got the vote." he

Ricketts' ultracentralized [7]

management approach has

enabled Standard Chartered -

said unapologetically

one of the world's

10 largest banks -

to roll out a state-

of the art global

IT infrastructure

in less than 18

months. With hubs

in Hong Kong, Sin-

gapore and Lon-

don, the infrastruc

ture comprises a

I spend so% of my life on

In July, SAP plans to release a set of warehousing products designed to make it easier for R/s buyers to build companion analvalue distribution SAR in most but? testing the Bosiness Informa tion Warehouse (BIW) tools with a dozen users worldwide and will been a controlled collout to about 70 sites next month

NEW AND IMPROVED Users "will certainly see an im-

provement" over what SAP now offers for creating and analyzing reports, including Windows in terfaces and support for Excel spreadsheets, said Kevin Mc Donald, institutives manager for BIW at SAP's U.S. subsidiary in Pholadelphia BIW will be show

Westerner, he explained

In parts of Africa, for exam-

ple. locals sometimes dig

up land-based communications

lines and strip off the copper to

In Asia, where great impor

tance is placed on good relation

ships, the bank does business

decorate tribal bradpieces

cased at an SAP conference or San Francisco this week Other tools also are appea

that promise to reduce the amount of heavy-duty manual ending users have to do to set up data warehouses for R/s. For ex ample, Acta Technology, Inc. un Palo Alto, Calif., this week plans to ship software that automatically builds programs to pull data out of R/a

Janssen-Ortho and S-B Power Tool are using a beta version of the Actalank tool. So is Church & Dwight, which plans to turn on both R/3 and a data ware house next month SAP's BIW tools mucht make

at easier to keep Church & Dwight's vital daily sales reports in R/s formats, said Mike Panesis, director of MIS at the \$575 million maker of baking soda in Princeton, N.J.

"But we really can't want for them," he added. "We're going live now "D

HP Unix servers pump up for Web. warehouses

By faskumar Visayan

HEWESTT-PACKARD high-end Unix servers put chmbed a little higher.

The Palo Alto, Calif., company last week introduced top-of-theline additions to its HP quon Kclass family of Have conserve They feature faster processors. greater scalability and more exsson capabilities. Powered by up to six of HP's

new 64-bit 240-MHz PA-8200 processors, the servers are armed at data warehousing database and World Wide Web server application markets. The HP 9000 Ks80 and Ks80

systems can support up to 8G bytes of RAM and up to nine I/O The new servers meet the up-

grade needs of existing users while providing only feature sets that exist already, said analyst James Garden at Technology Business Research, Inc., in Hampton, N.H. "It is a pretty straightforward evolution of its high-end Unix line," he said But upgrades are vital for users at a time when a sleer of fact. growing applications are blow ing the tops off the servers put to place to handle them, he said Rich Products Co., a \$1 billion at \$79,000.

food products company in Buf falo, N.Y., is a good example Just two years ago, the company bought several of HP's K-class servers to run many of its large companywide applications.

But the rapid growth of those applications, especially for man ufacturing, sales and marketing and a data warehouse, left the company scrambling to find more hardware horsepower.

"From an expansion point of ew. I can build on the capa bility I already have" by simply moving the bigger applications to the new HP servers, said Me chael Selfitto, director of technocal services at Rich Products The Janus mutual fund com

pany in Denver uses several Kclass servers as database, application and data warehouse sencrs. 'The boost to performance provided by the move to faster

processors is what interests me the most," said Nevdle Teacarden, manager of technology archipecture at Janus The company hopes to take advantage of a 20% perfor-

mance boost provided by the move to the 240-MHz RISC chip in its data mining and Web ever applications, he said. A KaSo base system will start

network that nunca real-time risk man agement applica-WIND YOUR HANNERS

the bank, which does most of its

-Both applications are critical to

becomes in Asia but is in the

trading system.

process of opening new markets in South America and Africa. The challenges of implement ing a global IT infrastructure arm't for the fainthearted or senophobic Ricketts' advice Koow the customs of your host so far as to say that American

IRM

Carl Birtatte of "I'm the man, and I've got the vote tion and a foreign-exchange

with multiple hard water and software resellers. "I could globally set a stan dard [to buy only] but this would destroy my

Asian network Ricketts said, "Even though it's not the most cost-effective or efficient wa you know it will work, and it's predictable

For example, local partners know bow internal mechanisms work. "lake what's the quickest way to get software through customs," Ricketts explained. U.S. Fortune 250 companies

with global expansion plans an recognizing how important it is to understand and honor cultur al differences, said John Kirksey menoning director of Assessite consulting at Coopers & Lybrand LLP in Chicago. "I wouldn't go

The one thing you have to companies have potten fully in learn is to take account of every front of it, but there is an acon one's cultural differences" and awareness," he said bonor them even when they don't make sense to the average

A recent example is a Fortune 100 company that sent a female executive to head up human resources in its Far East region which also includes several Arab countries. When the wone an travels to Saudi Arabia the company pays for her husband to accompany her. She also wears a shayla and abaya the traditional head covering and outer clock of Saudi women

As a result, she has been able to operate very effectively. Kirksey said. "She has maintained our [American] level of diversity in terms of allowing women to develop to their full potential, and she also lives up to the cultural standards of the host country where she is required to do housess " he said

But not all U.S. companies have

been as astute Ricketts recalled an instance where he say "slightly evangelistic" Microsoft Corp. employees wearing Mi crosoft T-shurts in Hong Kong's Sam Shin Po underground sta tion, a well-known market for black market software

They were going up to peo ple and trying to convince them not to buy [pirated] CDs of Back Office Suite, which you can get for 15 Hong Kong dollars." Rick etts said. "I saw them bundled up and thrown into the road "C







n the surface, the future looks promising for solution to retunk stock Surely the pri those who say our youth can benefit from computers. The cost of powerful PCs and other in-

formation devices is dropping, and each week more schools are linked to the Internet.

But the data shows that we're splintering into a country of information haves and have-nots, knowers and know-nots. Over the past decade, kids in families in the top-third income bracket have become computer-savey and have plugged in to the 'net. Kids in the middle third

are starting to get online. The bottom third rarely sees a computer, let alone The problem isn't a mere lack of access. The growing information underclass lacks the vocabulary and motivation necessary to integrate digital tools into their lives. If you are poor, or black or

live in a rural area, you probably won't get the same exposure or training as richer white kids. Perhaps in 20 years, the marketplace will solve these inequities. Perhaps net-

work computers as cheap as toasters will be common in schools and homes. But until then, a lot of damage

The education sys tem alone can't solve this problem. Putting five or to networked computers in the library of a school with 1,200 students is good. but each child ends up

using the computer less than 15 minutes per week. If the digital divide can't be bridged by market or schools alone. whose responsibility is it? The new media, the new economy and the new generation are causing every in-

vale sector is acquiring some new responsibilities. Furthermore, the digital divide isn't just a social or ethical issue. it's a business issue

Every corporation should take a chartable instative to were schools and get technology into the hands of less-fortunate kids. Companies need to fund im-

portant unitiatives such as aB1 (www.zb1.org). which seeks to bring the Internet to every 5 year-old in the world I propose there additional steps for corpo-Wire wire a family. The casi-

est way for corporations to promote unsperately need mentors. D versal accres is to give NET GENERATION all employees computers for their homes It the fluency of human capital in the

knowledge economy. Computers in the home will be instantly embraced by children who will train their parents, thereby reducing training costs.

Fund community computing centers These centers offer free computer access to lade and adults who can't afford PCs. and they offer fabulous value. But even when new equipment is donated to com munity computing centers, it's rarely accompanied by technical or infrastructure support. A continued commitment to munications equipment and related

bills might come in more handy than a splashy onetime gift Give employees time, give a commu nity time. IS professionals are famous for their long hours. But their expertise is needed elsewhere, as well. Give your employees time to volunteer. They are needed to train the instructors in schools and community computing centers. And children who have no understanding of corporate culture or professionalism des-

Tapscott is chairman of the Alliance for Converging Technologies and an authority on the impact of digital media and economy. He has written six books, including the bestsellers Paradigm Shift and The Digital Economy. His most recent book is Growing Up Digital: The Rise of the Net Generation (McGraw Hill. 1908)

Do we need domain names at all?

David Moschella

ccording to the U.S. Department of Commerce, we all have until March 23 to send in comments regarding the Internet domain name "Green Paper," produced by Ira Magaziner's White House task force. Having sifted through the was Olympic 3 9222

report and some of the early feedback, I have just one question. Has anyone considered scrapping the whole thing? If I want to mail a letter to Computer world. I need to know the publication's address is 500 Old Connecticut Path. Framingham, Mass. If I want to call, I need to know its telephone number is (508) 879-0700. If I want to watch David Letterman on CBS in Boston, I need to know that in that city. CRS is on

None of that is particularly difficult Why is it that on the Internet, people believe the address and the addressee should be one and the same? Just be cause computer mapping makes this estable doesn't mean it's a good idea. The test of any good addressing sys tern is how well it scales. We've had rela

tively few problems adding new streets ZIP codes, telephone numbers and TV sta tions. Yet as the Inten net has grown, it's spawned a registration monopoly: multiple trademark disputes: domain hoarding and speculation; and international bickening rem

iniscent of the World Trade Organization. And real growth of the Internet has barely besun Every time I hear people say that all

we need is a few more top-level domain names, such as store, firm or arts, I immediately think of the Egyptians, the Romans and the Bell system. Hiero-

glyphics worked well enough until more hun 600 words were needed. I'm sure Roman bureaucrats argued that if they could just keep adding new symbols similar to L C and D (50, 100 and 500. if you've foreoment, all their numerical problems would soon go away. In the 1950s, my parents' home phone number

Internet names will eventually suffer from a similar inability to scale. As the number of Internet addresses approaches 100 mil-Bon, there won't be enough unique names to accommodate every Tony's Pizza. The value

of particular names will rise sharply Twenty years from now more machines than people will be on the 'net, and they won't care if they're given friendly names. Neither should we. Although today it's convenient to use

well-known words as Web addresses. converting to a purely numerical system wouldn't be nearly as difficult as it might em. Search engines could easily locate

any organization, and with hot links and bookmarks, we would soon be clicking on actual company names anyway. In exchange for any minor incomence, we could eliminate endless husb hush meetings in Geneva and Washing ton, we could treat Tony's Pizza the same way we treat Sony, and best of all. we could get the money out of the addressing system. Companies will pay almost anything for the right Web

moniker, but the underlying numerical IP address isn't worth anything Remember, the postal, telephone, tele vision and radio businesses have all done just fine without letting their ad dressing schemes serve as global brand amplifiers. There's no reason the Internet shouldn't do the same. Today, bureductats, lawyers, big companies and Internet name-sellers have the most incentive to expand the system. Am I the only who thinks it's strange that those are the very people we have asked to draft

our current domain name proposals? O Moschella is an author, independent con sultant and weekly columnist for Comput erworld. His Internet address is david moschella@cu.com.

Patent watch

Recently issued U.S. patents (number, inventor/assignee, date)

omputer-assisted psychotherapy. Observations from psychotherapy sessions are entered into a database and analyzed to develop goals and actions. The thera pist and patient have simultaperson acrees to the database before, during and after sessions to promote interactive psychotherapy, (5,718,247, Kenneth Frankel, Ross, Calif.

Feb. 121

odeling a contaminated building - such as a radioactive nuclear facility closed to humans to conduct a decontamination survey. A remote-control mobile robot photographs the interior of the building to create a three-dimensional computer display (5.721.691, TRW, Inc., Redondo Beach, Calif., Feb. 24)

ntelligent battery that provides advance warning when its power drops below a preset threshold. It is intended for use with medical devices such as heart defibrillators. (5,721,482, Hewlett-Packard Co., Palo Alto, Calif., Feb. 24)

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MUTT FETCHES HIGH-TECH PROS

e's SmartDog, and he's showing up on billy

and the Web (www.smarldog.org) to attract IT

ers to Rochester, N.Y., named "Friendliest City

in America" by American Demographics. The Web site has job postings, a resume bank and on intelli

r had a tsunami, and we're 2.856 ml. from the San Andrees Fault."



Just in time for St. Patrick's Day

The folks who brought you macaroni noodles dancing the Macarena have a new screen saver for downloading: Liverdance. A squad of Irish livers comes to life with thunderous Irish step dancing to Celtic music. It's free (www.risoftsystems.com/ liverdance.asp) but includes advertising.

InsideLines

t least one high-tech lobbyist wasn't very impressed with Microsoft car Bill Gates' performance on Capitol-Hill last parry doesn't know to kiss ass in that situation?" Indeed. But you don't have to do anything like that to send quips or news tips to Computerworld Just get in touch with news editor Patricia Keefs at (508) 820-8183 or at patricia_keefe@cw.com.

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